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INFLATION INDEXING OF GOVERNMENT SECURITIES

HEARING

BEFORE THE

SUBCOMMITTEE ON TRADE, PRODUCTIVITY, AND ECONOMIC GROWTH

OF THE

JOINT ECONOMIC COMMITTEE
CONGRESS OF THE UNITED STATES

NINETY-NINTH CONGRESS

FIRST SESSION

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INFLATION INDEXING OF GOVERNMENT SECURITIES

TUESDAY, MAY 14, 1985

CONGRESS OF THE UNITED STATES, SUBCOMMITTEE ON TRADE, PRODUCTIVITY, AND ECONOMIC GROWTH OF THE JOINT ECONOMIC COMMITTEE,

Washington, DC.

The subcommittee met, pursuant to notice, at 10:10 a.m., in room 2212, Rayburn House Office Building, Hon. Daniel E. Lungren (vice chairman of the subcommittee) presiding.

Present: Representative Lungren and Senator Abdnor.

Also present: Charles H. Bradford, assistant director; and Christopher J. Frenze, professional staff member.

OPENING STATEMENT OF REPRESENTATIVE LUNGREN, VICE CHAIRMAN

Representative LUNGREN. It gives me great pleasure to welcome our distinguished witnesses this morning. The subject of today's hearing is "Inflation Indexing of Government Securities." We are especially pleased to have Senator Dan Quayle of Indiana among our witnesses at this hearing.

As we know, the servicing costs on the national debt are growing both in absolute amount and as a portion of the Federal budget. By fiscal year 1986, both the administration and CBO estimate that over $140 billion of Federal outlays will be devoted to the net interest budget function. This would amount to almost 15 percent of the Federal budget, and 3.5 percent of GNP. In comparison, the entire budget deficit in fiscal year 1986 is projected at 5.2 percent of GNP.

Clearly, any workable method of reducing this growing burden deserves serious consideration. One innovation that has been suggested for some time is inflation indexing of U.S. Treasury obligations. This could save, by some projections, the Federal Government money, and protect investors from any resurgence of inflation.

Furthermore, this would provide a means to determine the level of real interest rates. At times such as now, when inflationary expectations seem much in excess of what actual inflation is likely to be, this innovation is especially attractive.

One of the most important features of this reform would be the effect upon institutional incentives. By taking much of the Government's profit out of inflation, we could thereby remove market anxiety over pressures upon any administration to encourage the Federal Reserve to attempt to inflate us out of budget problems.

Though I think there is considerable merit in the idea of inflation indexation of Treasury obligations, I am also aware of the possible problems involved. Our purpose this morning is to examine these and related issues to evaluate the potential of this innovation.

We welcome all the panelists here and particularly welcome Senator Dan Quayle of the State of Indiana who has introduced a bill that encompasses this concept.

Welcome to the Joint Economic Committee hearing, Senator, and we are prepared to hear your testimony.

STATEMENT OF HON. DAN QUAYLE, A U.S. SENATOR FROM THE STATE OF INDIANA

Senator QUAYLE. Thank you very much, Mr. Vice Chairman. It's a pleasure to be back from whence I came.

As you refer to, I have introduced S. 1088 which deals with the price indexation of bonds. I believe it's very similar to a piece of legislation you introduced over in the House and I commend you for your ingenuity and also your leadership in this committee in trying to get into what is a relatively new idea.

I would ask unanimous consent, if I could, to put my entire prepared statement in the record and I will just summarize it, if that will be appropriate.

Representative LUNGREN. Without objection, that's appropriate.

Senator QUAYLE. Mr. Vice Chairman, I think we're all acutely aware of the Federal deficit that's facing us. Last week the Senate passed a budget reduction package of about $300 billion over 3 years. It's now in the court of the House of Representatives. I think we're all hopeful that we'll come up with the same amount. Perhaps a different mix but that we can get on with reducing the budget deficit.

This isn't going to be the only year that we're going to have a large budget deficit reduction package. I think we're going to have this exercise at least the remainder of the decade and perhaps even beyond.

Therefore, as we look at the budget crunch, I believe that it's absolutely imperative that we look at all sorts of ideas on how we can alleviate the budget deficit, and I believe that as you look at the price index bonds that this potentially has a savings.

If, in fact, inflation is kept down, where the Government's policy and the Chairman of the Federal Reserve, Paul Volcker, said time and time again we do have inflation down, we're holding it in check at least in the foreseeable future, it's not going to go up.

Well, this is certainly good news and if inflation stays down then price index bonds, no doubt about it, will have a savings.

Basically, just for the committee, I think the way this thing works is as follows: That's what we will do is to index according to the rate of inflation the principal of the bond; in other words, after a 10-year-20-year lifetime of that rate of indexation, the rate of inflation figured into the bond and as a return to the holder at that time that the inflated amount over the years.

The interest rate that is paid on that is much lower than the conventional interest rate, probably maybe 3 percent rather than

the 11½ percent. It may be as high as 5 percent, somewhere between 2½ and 5 percent would be what we would be paying on a price indexed bond today. The normal long-term rate is around 11½ percent.

So you can see that if, in fact, we hold inflation down that you're going to have a tremendous savings to the Government on just paying out the lower interest rates and, therefore, I think as we look at the budget deficit this is certainly one way that we can achieve some reduction.

The conventional bond, as you know, just simply pays a rate, whatever it may be over a period of years, with no concern about inflation. But I think there are benefits beyond the fact we are going to reduce the deficit. I think there is some benefit to having price index bonds to people that really want a sound investment and a secure investment.

I had the budget hearings in my home State of Indiana in the month of February and I was surprised that the biggest community there, people still fear this inflation factor, even though most of the Congress, the Chairman of the Federal Reserve and others say it's going to be held in check, and most economists feel it's going to be held in check for at least the next year or so, there is that inflation fear out there and if you want to look at a good check against inflation, this would be a more conservative approach to it.

You'd be necessarily guaranteed a certain increase plus the principal that you invest would not erode because of excessive inflation and it would be indexed accordingly.

Therefore, if you want to save for education, or say a lot of senior citizens and older Americans that are very conservative in their investment habits and patterns, that these price index bonds would be attractive options for them.

It would be an attractive option for them because it would give them some stability, a sense of guarantee and not having to worry about any kind of inflation eroding the basic purchasing power away of their dollar.

Unlike the conventional rate, if your inflation gets above that at some time, then you're in trouble and, in fact, you're actually losing money or having a net loss. Under this situation you would not have a net loss.

Also, I think, another benefit that would accrue would be the fact that we would probably stabilize our markets more than they are right now.

When we get back to the rate or get into an inflation hike, we tend to deceive the investment outside markets into tangible goods rather than intangibles. We see investments in gold and in silver, things of that sort, taking money out of the marketplace.

Obviously, we'll have an upward pressure on the interest rates, less money available for capital spending investment. Therefore, less money you're going to have in the market and the potential for higher interest rates evolves.

Finally, I'd like to just sort of put down this theory that people say, well, it just simply won't work. You know, why go ahead and try something?

I would say that price index bonds have worked in Great Britain, which is not terribly dissimilar to the economic situation we find in

our country. In the financial institutions I think there's always a reluctance by those in the bonding business to have any change of style or change of pattern or change of the way things are going to be done.

Obviously, I don't have any empirical data that says people are going to respond at 25 or 50 percent, but what I do say is that this is a good idea, something that I believe quite earnestly will work. I don't know why we ought to fear new ideas just to sort of say it will work, without giving it a chance.

So I hope that this committee will continue to push this. Obviously, we've got to take it up and I intend to do it pursuant with the Finance Committee in the Senate.

I intend to continue to talk out on this because I think it's a darn good idea; it will help reduce the deficit; it will allow people to have a guaranteed return; and it will also send a signal to the American people that Federal Government policy is very concerned about future inflation, because price index bonds will not save a lot of money if, in fact, inflation goes back up considerably.

I think this would be a strong message as far as Government policy is concerned that the Government is concerned about inflation. And why should the Government benefit, as you said in your opening statement, Congressman? Why should the Government benefit just because of inflation? We went through that in the late 1970's and saw stagnation set in and saw loss of jobs and loss of opportunities and really a rather desperate situation that occurred at that time in our history.

Finally, I do believe that given the proper chance, the proper effort, the proper implementation, that this idea can go a long way, that the people will respond to it.

So I say thank you, Congressman Lungren, and let's give this idea which I think is a good idea a chance to work.

[The prepared statement of Senator Quayle follows:]

Prepared Statement of Hon. Dan Quayle

Mr. Chairman, thank you for the opportunity to address the Joint Economic Committee on the issue of price indexed bonds. As you know Senator Trible and I have introduced S. 1088, the "Price-Indexed Bonds Act of 1985" -- a bill very similiar to H.R. 1773, which you introduced in the House March 27. "The Price Indexed Bonds Act of 1985" would obligate the Department of Treasury to issue, within ninety days of enactment, a series of Treasury securities indexed to the consumer price index.

Given the technical nature of this issue I probably should explain the mechanics of price indexed bonds. To do that let me review briefly how a conventional bond works. If Treasury issues a $1000 conventional twenty year bond paying 12 percent per year then the investor receives $120 in interest every year until the bond matures, when he also receives the face value of $1000. With price indexed bonds though the government would issue bonds that would promise to adjust the principal value of the bond for inflation periodically, so that the interest paid would equal the product of this underlying inflation adjusted value and the coupon rate. At

maturity the full inflation adjusted value would be redeemed. As a result, the investor is guaranteed that he will always receive a fixed real return on his investment. This guarantee reduces the greatest element of risk or uncertainty in a government bond. Consequently, the investor is willing to receive a much lower interest rate; probably in the range of 2 to 5 percent. So, consider the mechanics if Treasury issued a $1000 twenty year price indexed bond with an interest rate of 3%. If inflation was 10% during the first year at the end of the year the underlying value of the bond would be $1100. The interest payable would equal $1100 multiplied by the 3% interest rate or $33. If the price level trebled over the twenty years the Treasury would redeem $3000. This does not represent merely deferred payment. Because the risk of inflation associated with uncertain expectations is eliminated from the interest rate the Treasury will actually reduce interest payments over the period -- assuming of course that the average rate of inflation over the period is not much higher than the market's expectation.

Price indexed bonds are an idea that has been supported for years by many prominent economists such as Milton Friedman and Richard Musgrave. Unfortunately, until recently, there was little reason to consider price-indexed bonds as beneficial public policy. Until the late '70's inflation and interest rates were relatively stable. As a result, the inflation risk premium, which price index

bonds eliminate, was not a major component of the interest rate. Second, interest payments were a relatively minor -- and stable -- expense in the federal budget. Because of these rather fortutious economic conditions price indexed bonds would have been of only marginal pecuniary benefit to the Treasury. Morever, there was no practical experience on which to base implementation. These barriers to implementation have been eliminated. Unfortunately, interest rates and inflation skyrocketed in the late 1970s and plummeted again in the 80s. Interest payments are projected take more than 3 percent of GNP into the indefinite future. As a result the investor uncertainty about the rate of future inflation has added as much as six percentage points to the real rate of interest. Morever, in 1981, the British Treasury boldly took the step of issuing in their country price indexed bonds, very similar to those envisioned in this bill. The success of British price indexed bonds has supported the propositions of economists and provided the practical experience to demonstrate that the bonds do work.

Mr. Chairman, in the context of the Congress' struggle to find ways to cut federal spending I am tempted to advocate this bill solely as a means of reducing federal spending with no offsetting pain. Depending on your assumptions regarding the market determined interest rate on the bonds, what future inflation is going to be, and how many bonds are actually indexed, economists have estimated

that price indexed bonds could save up to $30 billion per year. I will not make such promising claims today, but I will note that almost all projections assume at least several billion dollars in savings. The bottom line is that we can expect that the interest costs associated with price indexed bonds to be about 20 to 40 percent less than under conventional bonds. Morever, this savings is practically a free lunch. In fact, most of the savings would come out of the pockets of the richest 10 percent of the country, who are the predominant buyers of Treasury securities. It doesn't cut a single federal program. It merely allows investors to accept voluntarily a lower interest rate from Treasury in exchange for the federal government asssuming the risk of future inflation -- an event over which they have unique and pervasive control.

Even if price-indexed bonds did not save Treasury billions, as I contend they probably would, there are other salient reasons for this bill.

Price-indexed bonds will be a valuable new financial instrument -- of especially great service to and in great demand by the elderly and others looking for a place to safeguard their real earnings against the ravages of inflation. For the first time, it would provide persons of modest wealth a safe and effective way to hedge against the devastating effects of inflation. The financial markets currently do not provide, at any price, a riskless means of

accumulating savings, or hoarding purchasing power, for future consumption. In fact, all current financial instruments force savers to internalize the risk of inflation when many would be willing to pay a price to avoid that risk. An investment instrument that minimized purchasing power risk and thus guaranteed a real rate of return would be ideally suited to many savers. For instance, the young couple saving for their child's education might prefer an inflation proof asset over a more inflation sensitive risk, such as conventional bonds, even if the former paid a lower yield. Likewise, the middle aged couple usually saves prudently, rather than invests speculatively, for retirement. Can one doubt that senior citizens whose retirement savings were ravaged by inflation in the 1970s, would not accept a lower yield in return for a guarantee that their savings would not be ravaged by inflation again? Also, any institution that had long term liabilities that are defined in real terms (such as pension funds or life insurance companies) could reduce the uncertainty in the management of their portfolios by investing in indexed bonds.

In sum, these bonds would be a popular instrument with savers who now invest billions of dollars per year in retirement accounts: whether it is IRAs, mutual funds, life insurance, or pensions; with an emphasis on preserving their savings, rather than speculating for investment profits.

Price-indexed bonds could also maintain the level of financial savings and the flow of funds in times of expected inflation, thus adding to the financial stability and efficiency of the financial markets. You may remember that when inflation expectations skyrocketed in the late 1970s many investors, seeking an inflation hedge, fled the bond and equity markets to invest in real estate and other tangible assets such as art, silver and gold. These massive movements from intangible to tangible assets reduced the liquidity of the financial markets and drove interest rates even higher. If these investors had the option of purchasing price indexed securities their money would stay as financial assets thus keeping interest rates low and productive investment high.

Price indexed bonds would eliminate one of the greatest incentives to the federal government to increase inflation. With conventional debt the government actually has a vested interest in encouraging inflation because inflation debases the value of its existing debt thus reducing the need for future tax increases. In effect, the government expropriated billions of dollars from investors in the 60s and 70s by selling bonds with nominal fixed rates and then debasing the debt by inflating the currency. This is the utmost in moral hazard. Indexing the debt base removes this potential profit and hazard because debt has to be paid back with the same, not cheaper dollars. Thus instead of being disposed towards inflation the federal government would at least be only

neutral. It is likely that by just issuing price indexed bonds investors would see Treasury's stake in low inflation and thus immediately reduce the inflation premium in interest rates.

The price protection of indexed bonds would affect only a small portion of the nation's financial assets. Bondholders would have considerable inflation sensitive assets (such as stocks, bonds, and wages) in their portfolio and are therefore not likely to weaken their resolve, let alone the national resolve, to minimize inflation. Taking away the inflation gains from the government weakens the incentive of what may be the most important constituent of inflation.

It is my contention that under reasonable economic assumptions price indexed bond bills will be less expensive than conventional bonds because they will eliminate the current risk premium of 3 to 6 percent. Current Treasury bonds are yielding about 11.5 percent. A recent survey by the investment firm of Drexel, Burnham, and Lambert showed that expected inflation over the next 10 years is about 5.5 percent. So these bonds are earning "real" returns of 6 percentage points, far surpassing the historical yield of about 2 percent. This premium is largely a result of investor's uncertainty over inflation, which is to say, the uncertainty of the real inflation adjusted yield of their asset. Because price indexed

bonds are issued in real and not nominal terms they completely eliminate this purchasing power premium.

Mr. Chairman, a representative from the Treasury Department will tell you today that these bonds would not work -- that there simply is not a market for them. It is, of course, difficult to predict the demand for a product in the absence of its existence. But, the view that a market for price indexed bonds does not exist is, in my view, very shortsighetd and myopic. Treasury seems to be relying on the logic that if a market does not exist, one can not be made. Where would our nation be if great entrepreneuers had not discovered and created new markets for their products? If you had asked the traditional financial experts in the early 1970's, few would have predicted the success of financial innovations such as adjustable rate mortgages or floating rate securities. Likewise, financial experts in Great Britain expressed the same shortsighted logic -- there is no market therefore there is no demand -- to discourage that country's introduction of price indexed bonds. As the record shows the experts were wrong! The bonds are so popular that nearly one-third of all new British government debt is now indexed.

Indeed, price indexed bonds are not entirely new to this country. Let me quote from a report on price indexed bonds written by Congressional Research Service analyst Tom Woodward. "Prior to

1933 when they were outlawed, many securities (including some issued by the government) had what was known as 'gold clauses'. These clauses guaranteed the lender repayment in gold or the equivalent price in legal tender. Thus, they were essentially indexed bonds with the price of gold as the index. These bonds were popular and a substantial market existed for them. There is no particular reason why this potential market should have disappeared...(morever, today)... a variety of security issues with floating interest rates -- an approach that has the result of partially indexing for inflation are also very popular."

Mr. Chairman, I admit that this talk of purchasing power premiums and investor uncertainty and the notion that Treasury can sell their bonds for less interest does involve an intellectual exercise. But as I said earlier the British have done us a great service by testing this theory in their own markets. The record shows that the assumptions I have made above hold. What needs to be done now is for the Congress and the Treasury Department to work together to conduct hearings on the efficacy of the bonds. In short, we need to establish that the market for these bonds does exist and then satisfy that market -- with significant financial benefits, I believe, for the American taxpayer, saver, and the financial markets. Thank you.

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Representative LUNGREN. Thank you very much, Senator, for your comments.

I guess one of the things we would probably like to underscore is that the various bills that are before the Congress actually ask for a trial period in an attempt to see if, in fact, these bonds would work. Those who believe they would work don't advocate this innovation with some sense of infallibility but are suggesting that perhaps we should try it with a percentage of the bonds that the Treasury issues to see if they would attract the type of attention some of us think it would.

Some, I think, oppose this idea with the criticism that is given generally against indexation, that is, we got in trouble with indexing entitlement programs; Israel got in trouble with indexing overall, and some would suggest that the inflation indexing of Treasury bonds would represent yet another concession to inflation. Furthermore, we wouldn't have the political heat applied to Members of Congress to generate concern about inflation because, in fact, someone who had invested in Treasury bonds of this sort would be protected against whatever that inflation would be.

How would you respond to that?

Senator QUAYLE. I think just the opposite would happen. I think that indexation, where you apply it properly, is a statement of Government policy that we are, in fact, concerned about inflation and we want to hold down inflation.

Obviously, the indexation of entitlement programs, any time you're going to spend more money, is an inflationary psychology.

Israel did, in fact, get in deep trouble on that fact. Wages are indexed, Government programs are indexed, everything is indexed over there. But the thing that is not indexed over there and the thing that we're trying to index here is to try to create disincentives for creating inflation.

The indexation of the income tax code is a disincentive for the creation of inflation. Before we had indexing of the Tax Code, the Government policy was creating higher inflation benefits. The more inflation, the more money that flowed into Washington, without raising taxes directly. It was a tax raise indirectly. That was a disincentive to inflation. The indexation of the tax code.

This would be a disincentive to inflation if we would have price index bonds because the Government policy would be to try to have a low rate of inflation and therefore the Government would gain more money by having a lower rate of inflation on price indexed bonds than it would by having a higher rate of inflation.

So this type of approach penalizes the Government's policy that would encourage and implement a high rate of inflation. So just the converse of those who say that all indexation is wrong. I think it's a simple-minded approach and it simply doesn't fit the pattern.

The fact is that there is some indexation that does encourage an inflation psychology; but this indexation is a disincentive and penalizes a policy of high inflation and I think a policy of high inflation or even the expectation of high inflation is bad Government policy.

It's a bad thing and I think by price indexing we would have these disincentives and I think it would in the long term be a very economic boon.

Representative LUNGREN. I suppose what you're saying is that not all indexation modes are created equal, depending on whether you apply it on one side of the scale or the other. I think that is a point we have to stress as we talk about this issue. How likely do you think this innovation could end up costing the Federal Government more than if current policies were continued to be implemented?

Senator QUAYLE. The only way in the long run that it would cost us more is if, in fact, inflation just simply got out of hand. If you get inflation on an annual basis back up at 12 or 13 percent it certainly would cost the Government more. I don't think there's any doubt about that, and most economic projections would show that, which again gets back to my basic point that this indexing would create these disincentives for a government policy of high inflation.

The only risk would be if, in fact, we returned to a policy of high inflation, therefore, the Government would be the loser of revenues as I think a matter of fact it ought to be and not a net gain of revenue, and I think that would be an enviable policy to have where you would benefit. There would be more revenues coming into the Treasury with lower inflation rather than more money coming into the Treasury with higher inflation and this is precisely the case of price indexing bonds.

Representative LUNGREN. There's a big argument, as you know, on your side of the Capitol as well as over here, and there's an argument within the community of economists as to whether, for instance, the Federal Government deficit has a direct or indirect impact on interest rates.

I guess there is at least a consensus on the fact that whether or not it does in a technical sense, it must now because people believe it does. That is, the perception of people drives many of the factors that go into the formation of our economic environment. I just wonder what you would say about this? What kind of signals do you think the U.S. Government sends out now with its issuance of Treasury obligations at current interest rates?

Is there some inconsistency with that and the message that's sent to the public at large with the administration and the private forecasts of inflation at 4 percent range for the foreseeable future?

Senator QUAYLE. Well, I think the Government policy of high interest rates and long term high interest rates, that it's a mixed bag. Obviously, those interest rates are up there because of the potential inflation expectation that they were burnt once and not going to be burnt again, which says let's keep those fears of inflation out there, and as long as we have those fears of inflation out there, then that's the reason to have deficits high—or not deficits high—interest rates high.

Another argument as you pointed out, is that there is conventional thinking—and I think conventional thinking is at some point certainly correct—that deficits do exacerbate and have upward pressure on interest rates.

So, since we have those high deficits you're also going to have high interest rates. But I think in the long haul what the Government is saying, particularly by having these long-term high interest rates, is that they're pretty well conceded to the fact that we're going to have high interest rates for a long period of time.

And if we would get into the price index bonds we would have a much lower interest rate because you would be somewhere between 3 and 5 percent, hoping inflation would come down as well; that if you would have the price index bonds out there as an alternative, I think you would see a response to those bonds.

You would see a response that might, in fact, trigger in the short term as well as the long term, lower interest rates because that would be a genuine belief that inflation really is going to be held in check.

And I think Government policy or the message we're sending is saying watch out for inflation; it could come back and therefore keep interest rates high.

Of course, they always come back and say that deficits are the only reason, but that's not the only reason they keep the interest rates where they are.

The interest rates were a lot higher with lower deficits, so I mean that doesn't just necessarily add up. You know, interest rates back in the 1980's, the prime rate sometimes was 20, 21 percent. At that time the deficit was 2 percent of GNP. So you can't just say that high deficits cause high interest rates; the two just don't necessarily go.

But I think that the signals there are very mixed and there's a certain lack of consistency in what they're trying to say.

Representative LUNGREN. Let me just ask you this last question: Some may wonder why we're even looking at indexing of bonds; that is, they say Congress is, and rightfully should be, concerned with budget spending and with taxes and with $200 billion deficits staring us in the face, that a consideration of an idea like indexing bonds is insignificant.

And I guess my question to you would be, do you have any projections? Have you done any research or do you know whether there's any data available with respect to the type of savings we might be talking about?

Senator Dirksen's old line about a billion dollars here, a billion dollars there and you add it up and pretty soon you're talking about real money, comes to mind.

Senator QUAYLE. I don't have any empirical data that I can put in as conclusive, but I have done some research and I can give you the best guesstimate that if, in fact, we would go with price index bonds and if inflation would stay about where it is, that we could potentially save several billion dollars a year on lower interest payments.

If, in fact, the market would get up around, say, a third to maybe 50 percent eventually. There's a lot of ifs you're going to plug into that and that's why it's very difficult. This is also a relatively new idea.

But let me say this. We do have huge deficits and if this contributes, say, several billion dollars a year off the Federal budget deficit, then we only have to come up with a couple of good ideas and we balance the budget. So I mean, what's wrong with a good idea?

Representative LUNGREN. A 2 percenter.

Senator QUAYLE. Yes, a 2 percenter. I offered one today and in a couple of weeks we might come up with something else, who knows. And I think that we shouldn't just discard this thing be-

cause some people say it won't work, whereas there are other feelings that it will, but at least try it.

Representative LUNGREN. I appreciate your testimony. I was just thinking that you said we had two ideas; if every Member could come up with as many good ideas to balance the budget as we seem to in our own districts and States shown for water projects, we could solve this budget deficit in a short period of time.

Senator QUAYLE. Unfortunately, for every 2 good ideas of reducing the deficit there's 10 around to increase the deficit and unfortunately those seem to get attention.

Thank you very much.

Representative LUNGREN. Thank you very much for your testimony. We appreciate it.

Now we would ask Mr. Francis X. Cavanaugh, Director of the Office of Government Finance and Market Analysis for the U.S. Treasury Department, to come forward.

Thank you for taking the time to appear here, Mr. Cavanaugh, and you may proceed as you wish.

STATEMENT OF FRANCIS X. CAVANAUGH, DIRECTOR, OFFICE OF GOVERNMENT FINANCE AND MARKET ANALYSIS, OFFICE OF THE SECRETARY OF THE TREASURY

Mr. CAVANAUGH. Mr. Vice Chairman and members of the committee, it is a pleasure to be here today to discuss the idea of a Treasury issuance of inflation-indexed marketable securities. This is a very complex debt management question, and we commend your subcommittee for conducting this hearing.

We have received many proposals over the past 20 years for the Treasury to issue indexed bonds, for a wide variety of social, political, or economic purposes.

It is thus difficult to generalize about indexed bonds, since various indexed bond concepts differ so much with respect to naturity, volume, denominations, tax status, form of indexing, marketing techniques, and other critical design features. As indicated in the attachment to my statement the design of an indexed bond is a very complicated matter.

The most popular general concept seems to be a fully taxable long-term bond issue with both the principal and the interest indexed to the Consumer Price Index.

However, we have yet to see any strong evidence of potential demand for such an indexed bond in this country, and we have not found satisfactory answers to the following important questions:

One, would such indexed bonds be as attractive as the option the Treasury now offers risk-averse investors of simply rolling over 91-day Treasury bills or other short-term securities that protect long-term investors against future increases in market rates of interest?

Two, would it be necessary to offer special tax advantages to investors in indexed bonds, as is done in the United Kingdom?

Third, given the efficiency and extraordinary liquidity of the current market for Treasury securities, would the novel features of an indexed bond be sufficiently attractive to investors to offset its uncertainties and relative lack of liquidity?

The threshold question in our minds is whether the Treasury would save money by issuing indexed bonds. We are delighted to see that this is the key question that you have asked the witnesses before this subcommittee to address today: "Would this innovation really be cost effective?" My summary statement will deal briefly with some of the major cost considerations, which are discussed in more detail in the attachment to my statement.

There have been various efforts to analyze the cost effectiveness of indexed bonds, but we have not seen persuasive evidence that indexed bonds would produce net savings to the Treasury. The most recent study that we're aware of, done by the Congressional Budget Office in January of this year, concluded that "while budget savings may result from issuing index bonds, these savings are impossible to estimate in advance. Furthermore, index bonds would cost more than conventional financing in some circumstances."

SUBSTITUTION EFFECTS

To deal with the cost-effectiveness question we must answer the question, "'Indexed bonds instead of what?" The Treasury must finance a certain amount of maturing securities each year plus additional borrowing to cover the current budget deficit, so any Treasury issues of indexed bonds would be a substitute for some other form of issue. It has been argued that indexed bonds would save the Treasury money because they would substitute for relatively expensive long-term Treasury bond issues. That is, long-term Treasury bond rates, which ran over 11 percent last week, are often viewed as containing an inflation expectation of roughly 5 percent and thus a "real rate" of about 6 percent.

This "real rate" is viewed by some as "too high" because of their perception that the true real interest rate in this country is about 2 to 3 percent, based on historical averages. Thus it is argued that the Treasury is paying 3 to 4 percent too much for long-term financing and that this excess cost, or "inflation risk premium" would be eliminated if Treasury sold indexed bonds instead. Yet this argument is based on two questionable assumptions: One, that indexed bonds would be a substitute for long-term, rather than short-term, Treasury financing; and two, that the true real rate of interest in this coumtry is about 2 to 3 percent, which is particularly questionable in view of the experience of the past decade. Further, as indicated in the attachment to my statement, the U.K. experience does not support the hypothesis that the before-tax real rate is as low as 3 percent.

Indexed bonds may well be viewed as a substitute for Treasury bill issues,which currently yield about 8 percent, or more than 3 percent less than the almost 11½ percent on Treasury bond issues, in which case there may be no savings from indexed bonds from the so-called 3- to 4-percent "inflation risk premium." Currently, the dollar mix of Treasury market financing each quarter is over 70 percent in the form of short-term bills, over 25 percent in the form of Treasury notes, which have maturities from 2 to 10 years, and about 4 percent in the form of Treasury bonds, which have maturities over 10 years. The Treasury has generally attempted to

lengthen its debt by issuing as many longer term notes and bonds as it can effectively place in the market at reasonable rates. The remainder of the Treasury's needs are met in the short-term bill market.

Also, from the standpoint of the investor, a Treasury indexed bond would appear to have more of the characteristics of Treasury short-term issues than long-term issues. That is, a long-term investor who now wishes to protect principal and chooses to keep rolling over Treasury bills has, in effect, a variable rate instrument which is similar to an indexed bond on which the earnings vary every 6 months with inflation or with market rates of interest.

INFLATION RISK PREMIUM

The inflation risk premium in conventional Treasury bonds that prospective investors in indexed bonds are expected to forgo is itself a difficult concept to analyze. Yields on conventional bonds include an implicit market assumption as to expected inflation, just as the yields bid on an indexed bond would reflect inflationary expectations. Prospective investors in the one instrument or the other would risk making the wrong choice. With either instrument the investor runs the risk that his total return would have been greater from the instrument that he did not choose, since inflation could turn out to be more or less than expected. In time, the market consensus on inflation presumably would be reflected in both instruments, as the market arbitraged between the two, and there would appear to be no reason to assume that either instrument had more inflation risk than the other.

THE BRITISH EXPERIENCE

Another argument made for U.S. Treasury-indexed bonds is that, "The United Kingdom has done it so why don't we?" The United Kingdom has in fact issued indexed bonds in amounts of £2 billion in 1981, when they started the program, £2.65 billion in 1982, £2.80 in 1983, £1.05 billion in 1984, and £0.95 billion in 1985 thus far, for a total of £9.45 billion in the 1981–85 period. Yet the U.K.-indexed bonds are exempt from U.K. income taxes except for the tax on the relatively small 2- to 2½-percent coupons that these bonds carry. Thus U.K.-indexed bonds are more like tax exempt municipal bonds in the United States than U.S. Treasury securities. While the Treasury has statutory authority to issue taxable indexed bonds, it has no authority to issue tax-exempt bonds. Nor has the Treasury sought such authority. Our experience with the municipal bond market in this country has convinced us that tax-exempt Treasuries would not be cost effective, since the revenue loss from the tax exemption would greatly exceed any nominal interest savings.

Thus we have not viewed the U.K. experience with indexed bonds as a model for the United States. Contrary to the claims of some economists, the U.K. experience does not reveal the true before tax "real rate" of interest, and it does not support the claim that indexed bonds, taxable or tax exempt, would save money for the U.S. Treasury.

THE EFFICIENCY OF THE TREASURY MARKET

The market for U.S. Treasury securities is the most efficient market in the world. It is a large well-established market with unparalleled liquidity. An indexed bond, because of its novel features, would not realize the full benefits of the liquidity of the conventional Treasury market, and its relative lack of liquidity would be reflected in the bid price received by the Treasury in an indexed bond auction.

Investor demand for indexed bonds would undoubtedly change as inflation expectations change, which apparently has been the case with the U.K.-indexed bonds, as the issue volume declined from £2.65 billion in 1982 to about £1 billion in 1984.

Thus a requirement that the U.S. Treasury issue indexed bonds, especially fixed amounts each year, could lead to significant increases in the cost of financing the public debt. Moreover, in considering any debt management innovation, the Treasury must be concerned with the cost of financing all of its debt issues, which currently total over $1 trillion a year. A poorly received Treasury issue, because of faulty design or a misreading of a new potential market, could adversely affect Treasury's credibility in the market. So we approach innovation with great care.

We recognize that the extraordinary changes in financial markets in recent years have provided new challenges to the Treasury to consider and reconsider innovations in the management of the public debt. In fact the Treasury has recently introduced two significant debt management changes: One, special foreign-targeted issues in October and December last year; and two, our new STRIPS [separate trading of registered interest and principal of securities] program which we inaugurated in February of this year to take advantage of the new demand for zero-coupon securities. Both of these innovations have saved significant sums for the Treasury and have thus helped to reduce the cost of financing the public debt. We will continue to be alert to opportunities for further savings, and we greatly appreciate the efforts of your subcommittee in this respect.

Congressman Lungren, that concludes my oral statement, and I request that the more detailed attachment to my statement also be included in the record.

I will be pleased to try to answer your questions.

[The material attached to Mr. Cavanaugh's statement follows:]

Issues in Analyzing Treasury Indexed Bonds

Choice of Index

An appropriate price index must be chosen. The CPI (all urban consumers) and the GNP deflator are often mentioned. The CPI has the advantages that it is well known and is reported on a monthly basis with a one month lag. While the GNP deflator is considered by some to be a more reliable price index than the CPI, it is reported only on a quarterly basis and is subject to frequent revisions. Other possibilities include the CPI for urban wage and clerical workers (Social Security is indexed to this measure) and the personal consumption expenditure (PCE) deflator.

Once the index is chosen, consideration has to be given to what provisions should be made in the event of revisions in particular monthly or quarterly numbers, revisions in the entire series, late reporting of the index, or discontinuance of the index.

With respect to revisions in the series, one would have to decide at what point a reported number would be considered final. Otherwise, adjustment in the amount paid on these securities could become never ending.

If the entire series is revised, then an appropriate means for splicing the old series to the new series must be formulated and specified in order to compute changes in the level of the index. For example, if the index is revised with different weights, but it is not possible to make the revisions to the base period number and it is not possible to continue the old series into the future, then some arbitrary decision must be made in order to compute the value of the principal and/or interest payments.

Base Period

Another choice that must be made is the selection of the base period. Since inflation is not observable instantaneously, there has to be a lag between payment dates and the period of price changes upon which the payments are based.

In the case of the indexed bonds that have been issued by the United Kingdom, both the interest, payable twice a year, and the principal are indexed to the retail prices index (RPI) with an eight month lag. For example, an interest coupon, which would have a value of £1 if there were no inflation, would have an actual value of £1 multiplied by the ratio of the level of the RPI eight months before the month of the coupon payment to the level of the RPI eight months before the month the bond was issued. With this lag, it is possible to know before the beginning of a semiannual coupon period the amount of payment that will be made at the end of the period.

In choosing the appropriate base period and lag, it would

seem advisable, if the coupons are indexed, that there be enough of a lag that the value of the next coupon payment always be known. This would be especially important if the indexed security were marketable, because it would facilitate trading.

Coupon Payments

The frequency of the coupon payment must be decided. U.S. Treasury conventional marketable notes and bonds pay interest semiannually. U.K. indexed securities also pay interest semiannually. However, other choices are also available, such as annual payments or no payment until maturity, which avoids the need for reinvestment of interest.

It must be determined whether only the coupons or both the coupons and the principal are to be indexed. This determination would be based on the perceived purpose of issuing an indexed bond and the preferences of the target group of investors.

If the purpose is to index current income to inflation, then all the indexation would apply to the coupon. The inflation rate could simply be added to the coupon rate. For example, if the coupon rate is set initially at 3% annually and inflation is 11% per year, then the annual payment would be 14%. At maturity, holders would receive the principal of the bond. One could view such a bond as paying out the appreciation of principal currently.

This type of bond does not protect the investor from the erosion, due to inflation, of the real value of the principal initially invested. However, if the appreciation of principal is taxed currently, regardless of whether or not it is paid out currently, such an indexation methodology might be more attractive to taxable investors. Of course, this type of indexed bond poses more reinvestment risk than does an indexed bond which does not pay out the appreciation of principal currently.

In substance, an investor can achieve nearly the same type of investment by buying a Treasury bill and continually rolling it over at maturity. In fact, investors who do not wish to lock in long-term nominal rates may prefer the bill rollover, or other series of short-term investments, to this type of indexed bond, since there is less market risk to short-term investments. Each time a bill matures, an investor can opt out of his investment with his (unindexed) principal intact. By contrast, a long-term indexed bond may or may not be saleable in the market at par.

Maturity, Size of Issues, Denominations

The maturity, the size of the issues offered, and the minimum denominations would have to be selected. The choice of minimum denomination would take into account what investor classes one is trying to sell these securities to, the relatively high administrative costs of issuing securities in small denominations, and

the appropriate level of competition for savings with institutions such as commercial banks and savings and loan associations.

Marketability

Presumably, these securities would be marketable. However, it may be desirable to issue indexed securities targeted to particular groups, such as small investors or pension funds, that would be nonmarketable. A nonmarketable indexed security does solve one tax problem, the question of the appropriate tax treatment of gains or losses arising from the trading of indexed securities. However, a nonmarketable security would not be attractive to the purchaser unless it were puttable to the Treasury.

Eligibility

Related to the question of marketability is eligibility to own indexed securities. Currently, anyone may purchase conventional Treasury marketable securities. Presumably, there would be no reason to change this for a marketable indexed security, but tax considerations might force an examination of the issue. For example, if the indexed principal amount is tax exempt, it may not be desired to extend this tax benefit to all possible purchasers.

If the indexed security were nonmarketable, then there probably would be eligibility restrictions. It would depend on the perceived purpose of the issuance of the security, as well as any special tax concessions granted holders such as in the case of the savings bonds program.

Sales Techniques

For a marketable issue, a number of sales techniques could be considered.

The indexed securities could be sold in a manner analogous to the current method of auctioning new issues of conventional coupon securities. Instead of bidding on the basis of nominal yields, auction participants would put on their tender forms their desired real yield. The Treasury would then accept competitive bids, starting with the lowest real yield, in sufficient amounts to cover the announced issue size. If noncompetitive tenders were allowed, Treasury would accept these at the average competitive real yield.

Under this method, Treasury would then decide on a real coupon to attach to the bond, and then according to a formula (preferably preannounced), it would convert the accepted real yields into prices. Accepted tenders would receive the real yield that had been bid.

If there is a wide disparity of real yields bid, this method of sale could cause a problem because investors might not wish to buy these bonds at substantial discounts or premiums to the initial par value. There might also be disagreements about the appropriate formula needed to translate real yields into nominal prices. It is not possible to design a formula that will guarantee a certain real yield different from the coupon given all possible future courses of inflation.

Alternatively, Treasury could sell the securities at a similar type auction, except that the coupon would be announced beforehand and the auction would be on the basis of price. At least, initially, Treasury would not know what an appropriate real coupon would be, and the market, because of its unfamiliarity with the instrument, might bid a wide variety of prices. Treasury might decide not to award the full amount of the auction, if in order to do so it would have to accept prices that were, in its judgment, too low.

Another possibility would be a Dutch, or single-price, auction for these indexed securities. This could be either on the basis of price or of yield. The danger that Treasury would run with a Dutch auction with a preannounced issue size is of issuing the entire offering at a very high real yield. Again, a large variance could be expected in the bids, and there would be no assurance that there would be complete coverage.

A way to resolve these problems would be to follow the U.K. example and sell the securities in a modified Dutch auction. A maximum amount for the issue would be announced, but no minimum. Treasury, after examining the tenders, would decide the lowest price it was willing to accept and issue the security at that price to all who bid the lowest accepted price or higher. In the U.K., the remaining amount is offered as a "tap" issue (available for subsequent sales at prices determined by the issuer rather than at auction prices), but given institutional differences between the U.S. and the U.K., that probably would not be as feasible here.

The modified Dutch auction could also be done on a yield basis. The coupon that would be attached would be the highest yield accepted, and the issue could then be issued at par. Investors might prefer this, because they would be assured of a guaranteed real yield and not have the problem of evaluating a nominal discount or premium in real terms.

Finally, the issue could be sold by the fixed-price subscription method. The danger here is that Treasury would have great difficulty in pricing the issue, and consequently it could be vastly over- or under-subscribed.

If the issue were nonmarketable, then the method of sale could be the same as savings bonds, that is, continuously available

at specified terms. Also, there could be special offerings to certain classes of investors on a subscription basis at specified times. Again, there would be a pricing problem and uncertainty about how much would be issued.

Tax Issues

The tax treatment of indexed bonds is a critical issue both for analyzing whether such a bond would provide cost savings to Treasury and for determining who the potential investors might be.

The Tax Equity and Fiscal Responsibility Act of 1982 requires that a portion of the original issue discount of both corporate and Treasury securities, determined by a compound interest formula, be included in ordinary income each year for tax purposes. This same method of taxation applies to stripped components of Treasury securities.

In order to arrive at parity of tax treatment of indexed bonds with bonds sold at original issue discount, the annual appreciation of principal due to inflation should be taxed each year as ordinary income (a decrease due to deflation could be treated as an ordinary loss). In such a tax regime, taxable investors would probably not be attracted to indexed bonds (because of taxation in the absence of cash flow), and the market for them would consist mainly of non-taxable investors such as pension funds and investors who could place them into tax-exempt accounts such as Individual Retirement Accounts or Keogh Plans. Such a fully taxable indexed bond would not meet the apparent major objective of some indexed bond proponents (protection against principal erosion for taxable investors). In fact, the higher inflation turned out to be, the more the real value of the principal would be taxed away. In this case, the only way for the real value of the principal to be kept intact for taxable investors is for there to be no inflation, which is the same condition that must be met for conventional bonds.

An indexed Treasury bond with the appreciation of principal not subject to tax would have a tax advantage over a conventional Treasury security. Even if the appreciation of principal were taxed, but only at maturity, or taxed at a lower rate, or both, the Treasury indexed bond would have a significant tax advantage over other fully taxable securities such as zero-coupon bonds. Experience with municipal tax-exempt securities indicates that they cost Treasury substantially more in lost revenue than the issuer gains in lower interest costs. While the amount of the loss varies with the maturity of the issue and changing market conditions, a conservative estimate is that there is at least a $4 revenue loss for every $3 in interest savings from tax exemption. A tax advantaged Treasury would not likely be much different in terms of its cost effects to the Treasury.

Risk Premium Issue

An argument made in favor of indexed bonds is that the market price for conventional Treasury securities includes a "risk premium" to cover the possibility that actual inflation over the holding period will exceed expected inflation and that this risk premium would not be included in the pricing of an indexed bond. Therefore, there would be a cost saving to the Treasury; i.e., that the expected after tax yield on indexed bonds would be less than the expected after tax yield on conventional bonds. However, consideration must be also given to the risk inherent in investing in indexed bonds, the various goals of investors, and market arbitrage.

A risk in investing in an indexed bond is that inflation will turn out to be less than expected. In other words, an investor would have received a better real return on a conventional bond than on an indexed bond, because the market's inflationary expectations were too high. Given this, each investor has to judge which type of bond will provide the better return, which can only be done by explicitly formulating inflationary expectations.

The downside risk is less on an indexed bond than on a conventional bond in the sense that before tax it is possible to receive a negative real return on a conventional bond but not on an indexed bond. However, the real after tax return on an indexed bond can be negative if the appreciation of principal is taxable. In this connection, it should be noted that the economic risk posed by inflation would not be eliminated merely by adopting different financing techniques, such as indexed bonds. To the extent that an indexed bond offers some downside protection the risk is shifted from the bondholder to the Treasury and, hence, to the taxpayer. It is unclear how much investors would pay in the way of a premium in exchange for this minimum protection.

Some investors will prefer conventional bonds that offer certain nominal payments. The only way to hedge nominal future liabilities is with an asset that provides certain payments in nominal dollars. Other investors might prefer an indexed bond with a guaranteed return above the inflation rate, though if the appreciation of principal is taxable for such an investor, the assurance is of course far from complete.

There would also be traders in the market who would arbitrage conventional and indexed bonds to take advantage of short-run profit opportunities so that the resultant pricing of both instruments will reflect a market consensus on inflationary expectations. Given that there is risk in both types of investments, the expected after tax yields should converge; though if the indexed bond is taxed more favorably, its expected after tax yield will likely be significantly higher, as is the case with tax exempt municipal bonds.

In addition, there is considerable market risk to an indexed bond. Given the relatively low coupon attached to such a bond,

small changes in the real rate will result in relatively large swings in prices. An additional complication and risk in this regard is that even before taxes, an indexed bond that is not priced at par does not provide a guaranteed real return. The reason is that a nominal discount or premium at the present time has uncertain value in real terms in the future. In fact, an indexed bond not priced at par guarantees neither a real rate nor a nominal rate, and an indexed bond price will be affected not only by changes in the real rate but also by changes in expected inflation.

U.K. Indexed Bonds and the Real Rate of Interest

Substantial mention has been made in discussions of indexed bonds of the U.K. experience and its implications for the real rate of interest.

U.K. indexed bonds trade at prices below the principal value adjusted for inflation. In order to evaluate this nominal discount in real terms an inflation assumption is needed. In fact, the Financial Times provides estimates of the real yields of U.K. indexed bonds based on two inflation rate assumptions -- 5 and 10 percent. On April 17, 1985, these estimates of the real yield ranged for the different issues from 3.04 to 3.47 percent under a 10 percent inflation rate assumption and from 3.18 to 4.57 percent under a 5 percent inflation rate assumption.

These estimates do not, however, consider the tax benefits of U.K. indexed bonds.

Since 1982, U.K. indexed bonds are tax exempt with respect to appreciation of principal if held for over one year. Thus, assuming some inflation for the investment period, U.K. indexed bonds offer a tax advantage over conventional bonds. The expected before tax real yield on conventional bonds may well be higher because of their tax treatment than the expected real yield on indexed bonds; after tax, the reverse could be true.

The Treasury looked at this question last year and calculated that on June 23, 1984, for a U.K. investor in the 30 percent marginal tax bracket who expected inflation to be 5 percent, the equivalent before tax real yields on conventional bonds selling at par which would equate the after tax yields of conventional bonds with indexed bonds ranged from 5.49 to 8.09 percent for the different maturities. For higher inflation rates or higher tax brackets, these numbers are even higher. (Attached is an explanation of the calculations and tables showing the breakeven before tax real yield on conventional U.K. bonds for different combinations of inflation rate and marginal tax rate assumptions.) We thus concluded that the U.K. experience did not provide support for the hypothesis that the before tax real rate of interest is 3 percent and also indicated that the inefficiencies of the U.S. tax exempt market may also be present in the U.K. as well. Further, the U.K. experience is not relevant to a fully taxable U.S. indexed bond.

Explanation of U.K. Indexed Bond Tables

Attached are tables that show what a fully taxed conventional bond (selling at par) would have to yield in order to give a taxable U.K. investor an after tax yield equivalent to that which he could receive by investing in a tax advantaged indexed bond. Two different expected inflation rate assumptions (5% and 10%) and two different marginal tax brackets (30% and 50%) are shown.

The first column of each table identifies the indexed bond. The second column shows the price as given in the Financial Times (June 23, 1984). The current adjusted par value shown in the third column is calculated using the retail prices index for October 1983. This number is divided by the level of the RPI eight months before each bond was issued, and the result is multiplied by 100. (There is an eight month lag in the indexation methodology for U.K. indexed bonds.) The table shows that U.K. indexed bonds are selling at substantial discounts from their adjusted par values. These discounts translate into higher real yields than indicated by the coupon (to evaluate the nominal discount in real terms, an inflation assumption is needed). The prospective real redemption rates come from the Financial Times.

The after tax nominal yield (columns 5 and 8) is the rate at which the after tax cash flows of the indexed bond must be discounted in order to arrive at the current price. The before tax nominal yield (columns 6 and 9) is the after tax nominal yield divided by one minus the marginal tax rate. This before tax nominal yield indicates the coupon that would have to be attached to a conventional bond sold at par such that its after tax nominal yield is equivalent to the after tax nominal yield of the tax advantaged indexed bond.

Finally, the before tax real yield shown in columns 7 and 10 is derived by subtracting the inflation rate (5% or 10%) from the before tax nominal yield and dividing the result by one plus the inflation rate (i.e., 1.05 or 1.10).

Since U.K. conventional bonds are in most cases not yielding as much as the before tax nominal yields shown in columns 6 and 9 of each table, this analysis indicates that an investor in the 30% or 50% tax bracket who expects inflation to be at least 5% would do better by investing in the indexed bond rather than the conventional bond.

Table 1

Inflation 5%.

Indexed Bond	Price 1/	Current Adjusted Par Value 2/	Stated Yield 1/	Tax Rate 30%			Tax Rate 50%		
				After Tax Nominal Yield	Before Tax Nominal Yield	Before Tax Real Yield	After Tax Nominal Yield	Before Tax Nominal Yield	Before Tax Real Yield
2% 1988	£103.307	114.68	5.14	9.44	13.49	8.09	8.98	17.96	12.34
2% 1990	87.75	102.04	4.91	9.28	13.26	7.87	8.85	17.69	12.09
2% 1996	102.75	127.17	4.09	8.41	12.02	6.68	7.94	15.87	10.36
2.5% 2001	92.875	110.33	3.83	7.98	11.40	6.10	7.41	14.81	9.34
2.5% 2003	91.75	109.66	3.75	7.91	11.30	6.00	7.34	14.68	9.22
2% 2006	94.50	124.30	3.59	7.89	11.27	5.97	7.41	14.82	9.36
2.5% 2009	91.50	109.66	3.53	7.69	10.99	5.70	7.12	14.23	8.79
2.5% 2011	97.00	115.84	3.49	7.63	10.90	5.62	7.05	14.10	8.67
2.5% 2016	86.50	105.81	3.44	7.64	10.91	5.63	7.05	14.09	8.66
2.5% 2020	85.50	104.09	3.40	7.54	10.77	5.49	6.95	13.90	8.48

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1/ Prices and stated yields (prospective real redemption rates) from Financial Times, June 23, 1984. Prospective real redemption rates are based on projected inflation of 5%.

2/ The current adjusted par value is based on the U.K.'s Retail Prices Index for October 1983. (There is an eight-month lag in the indexation methodology for U.K. index-linked bonds.)

Table 2

Inflation 10%.

Indexed Bond		Price 1/	Current Adjusted Par Value 2/	Stated Yield 1/	Tax Rate 30%			Tax Rate 50%		
					After Tax Nominal Yield	Before Tax Nominal Yield	Before Tax Real Yield	After Tax Nominal Yield	Before Tax Nominal Yield	Before Tax Real Yield
2%	1988	£103.307	114.68	4.27	13.33	19.05	8.22	12.87	25.73	14.30
2%	1990	87.75	102.04	4.32	13.67	19.53	8.66	13.23	26.45	14.96
2%	1996	102.75	127.17	3.80	12.99	18.56	7.78	12.51	25.03	13.66
2.5%	2001	92.875	110.33	3.60	12.62	18.03	7.30	12.05	24.09	12.81
2.5%	2003	91.75	109.66	3.53	12.53	17.89	7.18	11.95	23.91	12.64
2%	2006	94.50	124.30	3.40	12.63	18.04	7.31	12.15	24.30	13.00
2.5%	2009	91.50	109.66	3.36	12.35	17.65	6.95	11.78	23.56	12.33
2.5%	2011	97.00	115.84	3.33	12.36	17.66	6.96	11.78	23.56	12.33
2.5%	2016	86.50	105.81	3.29	12.40	17.72	7.02	11.81	23.61	12.37
2.5%	2020	85.50	104.09	3.26	12.26	17.52	6.84	11.68	23.36	12.15

Office of the Secretary of the Treasury
Office of Government Finance and Market Analysis

7/12/84

1/ Prices and stated yields (prospective real redemption rates) from Financial Times, June 23, 1984. Prospective real redemption rates are based on projected inflation of 10%.

2/ The current adjusted par value is based on the U.K.'s Retail Prices Index for October 1983. (There is an eight-month lag in the indexation methodology for U.K. index-linked bonds.)

Representative LUNGREN. Thank you very much.

I appreciate that statement. One of the things that I try to do in the hearings that I have the opportunity to chair is to attempt to get some diversity of thought. Though I think we are going to have some today, I am sorry we don't have all the subsequent witnesses on this panel, so that they could prompt some of the questions that perhaps I might miss myself.

You indicated that we have yet to see any strong evidence of potential demand for indexed bonds in this country, and you ask some questions about how such index bonds would be as attractive as the options the Treasury now offers, et cetera.

I guess in response to that, the question is, How do you know unless you have a trial period? And why couldn't the Treasury issue a relatively small amount of indexed bonds on a trial basis? Wouldn't this be an effective way of answering some of the questions that you pose?

Mr. CAVANAUGH. There would be, of course, administrative costs in doing the kind of a market survey that I think would be necessary and the costs, which I go into in some detail in the attachment to my statement, with regard to the design of the bond. Also we would want to be especially concerned, I think, in the case of the Treasury, because of the public confidence in the Government and the Treasury as the debt manager, that any experimental bond be structured with great care. Treasury needs to be much more cautious than a private institution trying a new product on an experimental basis.

I think that one would look first at the perceived market demand, so as to structure an indexed bond that would appeal to that demand, whether you're talking about long term or short term, taxable or tax-exempt investors, or small investors or large ones and thus the denomination.

So it would be a considerable effort, and I think it would be irresponsible of the Treasury to go ahead with a product without doing all that work, without doing the market survey.

While we have received many broad proposals, we have not received any requests that I'm aware of over the past couple of decades from investor groups saying we would very much like an indexed bond or that we would buy an indexed bond at this, that or the other price. We haven't seen that kind of demand in the market, and generally speaking we have found that if there is a significant investor interest, that sort of request in the end will show up. People would request that we put out a product like that.

So we would be reluctant, I think, Congressman, to incur the cost of developing that kind of product without having some confidence that there really would be a demand for it; and we would certainly hope that as a result of your hearings here today, and the information and expert testimony from other witnesses, that this will improve our understanding of why people think we ought to go into indexed bonds and what the potential market might be.

Representative LUNGREN. Let me ask you a question about process. There was a press report about 1½ years ago that Secretary Regan had reopened the issue by requesting a study to be done of indexed bonds. Can you tell me whether subsequently Secretary

Regan ever ruled out the issuance of such bonds, and whether Secretary Baker has ruled them out at this point?

Mr. CAVANAUGH. The actions under this administration by Secretary Regan that I recall include the first time we focused on the question in one of our quarterly financing press conferences in 1981. I think, and again, in 1982, when we made public statements that the Treasury had reviewed and rejected the idea of issuing indexed marketable securities.

But we continued to look at it, and I don't think Secretary Regan ever ruled it out. I think the Treasury is in somewhat of an agnostic position on it; that is, we realize the financial markets are changing very rapidly, and as I mentioned at the end of my prepared statement, just within the last 6 or 7 months we have introduced two major innovations that we hadn't really been considering before because of significant changes in financial markets, both foreign and domestic.

So we are well aware of changing markets, and we were looking very hard at the British experience with indexed bonds, which is relatively new; but as I mentioned, in their case, they are virtually tax-exempt bonds, which are quite a different thing.

So we have not taken a position either in the Treasury or in the administration that I am aware of that we're opposed to indexed bonds. We have the authority to do it now. We haven't done it, because we have not seen a significantly persuasive case.

Representative LUNGREN. Is it a subject of discussion within the Treasury? I mean, are there some advocates of it in the Treasury, or is there is a unanimous opinion against its consideration?

Mr. CAVANAUGH. No. Over the years we have had many advocates both within and outside the Treasury. With the changing administrations, people come with different ideas and look at it. It's been a very controversial and very complex subject, and there have been many differences of opinion.

But I didn't respond to the part of your question concerning Secretary Baker. To my knowledge, he has not had occasion to focus on this particular question in the short time he's been Secretary.

Representative LUNGREN. Let me go back to the question a minute ago, where we were talking about there being a lack of demand for indexed bonds. You say in your statement, "A long-term investor who now wishes to protect principal and chooses to keep rolling over Treasury bills has, in effect, a variable rate instrument similar to an indexed bond on which the earnings vary every 6 months with inflation or with market rates of interest." This seems to suggest, if I read that correctly, that there is some interest. If you say it is similar to indexed bonds, and that interest is being taken care of to some extent by one who rolls over Treasury bills, I guess my question is, Is that not indication that there might be some attractiveness to what we're talking about here?

Mr. CAVANAUGH. Well, I think there is something to that, Congressman.

Our concern is the other side of it, that if we are now offering the investor the 3- and 6-month bills and 52-week bill that are well-established market instruments, and if, in fact, they meet the perceived needs of investors that might otherwise be looking for an indexed bond, maybe we've got a good thing going; maybe we have a

well-established pattern of short-term as well as long-term issues, to meet all of these demands.

And that was one of the three principal questions that I raised at the outset, that it is possible that considering what the Treasury now offers, that we are meeting these needs.

The only argument I have heard against that point is that the short-term bills do not meet the needs of people who would like indexed bonds because the short-term bills involve transaction costs, if you roll them over every 3 or 6 months. In fact, that really is not a significant factor, if a factor at all, because the Treasury offers investors the opportunity to go into a Treasury bill for 3 or 6 months and to just indicate at the time they buy it, that they are going to roll it over. Each time they roll it over they get a card from the Treasury and just check it off if they want it rolled over again.

There's no transaction cost, no charge, other than a 22-cent stamp. So we really think we have in the Treasury bill the opportunity for an investor that's concerned about getting locked into a long-term bond at a rate that might turn out to be a losing proposition because of subsequent inflation. He can avoid all of that by going into a short-term bill. That's one of our major concerns, that maybe we are meeting this need now.

Representative LUNGREN. I appreciate that, and I appreciate your reluctance to move on to something that may not pan out. Maybe I am being an unreconstructed amateur supply-sider, but when some people say you've got to have the demand there before you come up with an innovation idea, I just wonder how many people demanded that the Wright Brothers build a plane or Henry Ford construct a car in the way he came up with the assembly-line method.

I guess the supply-side approach, in some ways, seems a way that you get some innovation as opposed to totally being locked into what you can perceive at present is your demand. But I do understand the caution that the Treasury Department has.

Let me ask you this question and then I will yield to Senator Abdnor, the vice chairman of the full committee.

You say that the inflation risk premium could go either way, that is, the investors might pay extra for either indexed of nonindexed bonds, depending on the market consensus on future inflation. And I guess this is my question.

Are you really saying, given the choice between two instruments with the same expected real return, that there are likely circumstances under which people will pay a premium for the uncertain one?

Mr. CAVANAUGH. Well, our problem is that the uncertainty is a fundamental economic problem that we have because of the legacy of high inflation rates in the past and investor caution. That investor uncertainty, that economic risk is there, and I guess it will be there for some time.

We have made considerable progress in recent years in keeping inflation down, and interest rates have come down substantially. One would expect, with continued progress, that interest rates would come down more. But investors are cautious. They were

burned pretty badly during the double-digit inflation era when they were, in fact, getting negative real rates of return.

So this is a concern. It's a risk, and I'm not sure you can avoid that. As an investor, if an indexed bond or conventional bond is available to you, you pick one or the other, and if when you buy the indexed bond it turns out that inflation is a lot lower, you don't do as well as the fellow next door that bought the conventional bond with a nice big fat coupon, then you're worse off. You have to make a choice.

If the Treasury is offering the two instruments at some point and the investor looks at one or the other, and he guesses as to the future rate of inflation, if he buys a conventional bond and inflation goes down by more than he expected, then he's better off in that. If he buys the indexed bond and inflation turns out to be as high or higher than he expected, then he's better off in that.

So either way he takes a risk that he can lose out, whether he's a portfolio manager or an individual investor, and is subject to all of the economic losses and criticisms for having made the wrong choice.

Representative LUNGREN. I understand that. But I am looking at it from the standpoint of both Government and the buyer. Should we continue to reward the investor who is betting on the fact that we are going to pay him a high return, based on an inflation expectation that may not come through? I am all for the investor getting as much money as he can, but I am also concerned about the Government paying a higher rate of interest than it necessarily has to.

But I understand the concerns you have expressed. I just wonder if what we're still talking about, when you compare the two, is whether, in fact, they have had adequate rates of return.

Mr. CAVANAUGH. If we were to issue indexed bonds—while at the time of initial issuance there would be a lot of uncertainties because it would be a new and complicated instrument, and it would be difficult to predict what sort of participation we would get in the auction—in time, if we did sufficient volume and people understood it, we would expect the market would arbitrage.

The market professionals buying and trading conventional bonds would relate them to the prices of indexed bonds. In time we would expect a market consensus to emerge as to the inflation outlook. Thus, in theory, in a perfect market there would be relative indifference between the two instruments.

Representative LUNGREN. During a period of long inflation, though, wouldn't the consensus be moving downward?

Mr. CAVANAUGH. Yes. You would get that change and, while I don't pretend to be an expert on the British experience, I think they have found that when they started the issuance of U.K. indexed bonds, at a time of relatively high inflation, there was more demand; then, as inflation went down, the value of the indexed bonds declined relative to the British conventional gilts, which are like our Treasury bonds.

So I think you're quite right, the market will adjust to these things.

Our concern is, in part, Congressman, that this is not an area where one can reasonably expect enormous savings. I think the

markets are very efficient; they adjust very quickly to imflationary expectations, which are built into the bids, no matter what.

Representative LUNGREN. I am not looking for enormous savings. I am looking for savings around this place anywhere I can find them on a reasonable basis. Enormous or not, it will contribute if there is a good realistic prospect of saving. I would hope we would not easily disregard it. Senator Abdnor.

Senator ABDNOR. Thank you, Congressman Lungren. I'm relatively new in this field, and have not given a great deal of thought to it. I haven't spent a lot of time on it. How many other countries besides Britain are doing this now?

Mr. CAVANAUGH. There are other countries, Senator, such as Brazil and Israel and some others, but they have extraordinarily high inflation rates.

Senator ABDNOR. It's not doing a heck of a lot for controlling inflation, is it?

Mr. CAVANAUGH. In those countries, no, I don't think so. I don't recall the numbers on their inflation rates, but we're talking about countries where inflation is 100 percent or more, quite different from here. United Kingdom is the only industrialized country that we know is issuing indexed bonds, with inflation rates anything like ours; their inflation was much higher than ours, but not anything like Israel or Brazil.

The United Kingdom is the only country I'm aware of that has had a significant indexed bond program that I think would be viewed as relevant to our situation, were it not for the fact, as I mentioned, that they're virtually tax-exempt bonds, which is a very different thing.

Senator ABDNOR. Does that have to be a piece of the program—tax exempt? If the bonds were indexed for inflation, would the return be fully taxed?

Mr. CAVANAUGH. We have had many proposals put to us, Senator, including tax-exempt indexed bonds, by people who want to protect investors against inflation and prevent the erosion of their principal. They argue that you shouldn't tax what you're giving investors in the indexed return, but we are prohibited from issuing tax-exempt securities under the Public Debt Act of 1941. Even if we have legal authority to do it, which we have not sought, our substantive problem is that our experience with tax-exempt municipal bonds in this country has convinced us that the Treasury would be a net loser if it sold tax-exempt bonds.

Having studied the municipal market over many decades, we're convinced that the revenue loss to the Treasury on the tax-exempt bonds would be much greater than any interest savings the Treasury would get from the lower rate on the tax-exempt bonds.

As a result, the Treasury, for many years, has been opposed to the idea of Treasury tax exempts and guarantees of tax exempts. Over the last 15 years, 24 or 25 different bills have come out of the Congress which prohibit Federal guarantees of tax-exempt bonds. I think, based on this general thinking, that tax exempts are a net loser for the Treasury Department.

Senator ABDNOR. What do you think about the people in Britain? Are they satisfied? How do they handle it there?

Mr. CAVANAUGH. The British issue indexed bonds with coupons of 2 or 2½ percent, about half of each, I guess. All of the other return is from the growth in the value of the bond from the indexation to their retail price index and the increase in the interest paid from the indexation.

In other words, the bulk of the return is from the principal appreciation which is exempt from taxation completely.

Senator ABDNOR. Taking into consideration the lost revenues in the case of Britain, could we save enough to offset that?

Mr. CAVANAUGH. No, I don't think so, Senator. Because of the experience that we have observed, and we have empirical evidence on that, in our municipal market. In our capital markets we have found the nature of the tax-exempt bond is such, the demand for it is such, that it's a net loser for the Treasury because of the revenue loss

I don't mean to suggest it is a simple matter, but part of the difficulty is that when you're selling long-term bonds in this country, the natural market for them would be pension funds. I don't know what their assets are now—something like $1 trillion, I think. But you can't sell a tax-exempt bond to a pension fund, because they are already tax exempt.

So in our capital markets, you're sort of swimming upstream when you try to sell long-term bonds to investors that are already tax exempt, if you make the bonds tax exempt. As a result, you don't get the kind of market demand for long-term municipal bonds that is natural to our economy.

I don't know what the situation is in the United Kingdom. I question whether the U.K. treasury is a net saver on their indexed bonds, but I don't pretend to know enough about their capital market structure to generalize about that.

Senator ABDNOR. Well, I suppose if you went tax exempt, it would have to be during a period when inflation isn't high. Otherwise, we'd be a loser every time.

How high was the U.K. inflation?

Mr. CAVANAUGH. I don't recall, but 4 or 5 years ago, when the United States had double-digit inflation, up around 11 or 12 percent, I believe the U.K. inflation was at least several points above that, and it has since come down.

Senator ABDNOR. Well, let me ask you this. Do you think price-indexed bonds would have a tendency to take the pressure off us as Members of Congress to let inflation go merrily on as long as we were operating under this kind of approach proposal?

Mr. CAVANAUGH. You mean if we had an indexed bond?

Senator ABDNOR. Yes.

Mr. CAVANAUGH. I think that is a very good question, Senator. It is a very subjective judgment to make, and I wouldn't pretend to know. People have argued on the one hand that if the Government issued indexed bonds, it would have a stake in lower inflation and would be more inclined to try to balance the budget. I would question whether—considering all the pressures to balance the budget and the apparent long consensus to do that, even though it hasn't been done—the issuance of an index bond would make a big difference in terms of a budget balancing effort.

Then on the other side of it, as you suggest, Senator, there has been concern expressed over the years that if you did have an indexed bond, then some people might view it as reducing the resistance to inflation.

Senator ABDNOR. I think if we ever do come up with a budget reduction package in this Congress, part of the purpose is to get interest rates down, but the other part is, we don't want to be scared to death that we're going to see another spiraling inflation. It has all the ingredients to be there, if we don't do something about it.

I am just wondering if something like this would be a disincentive or an incentive. I don't know very much about it. Well, thank you very much.

Representative LUNGREN. Well, let me just follow up on a couple of questions.

Are you arguing that one of the reasons we ought not to try this is because it, in fact, would add to the deficit because it would increase the cost of servicing the national debt?

Mr. CAVANAUGH. Well, certainly, one of our concerns, Congressman, is that it could have that effect, and again, we are not taking a position here. We are not saying index bonds are terrible and we should never try them. As I indicated, we appreciate your having us here, and we hope to learn something from it.

It's not a closed question. But in answer to your question, there is a concern that we would certainly incur a lot of administrative costs in structuring such an instrument and doing the kind of market survey and preparation, and then when we turn around and sell the security, we just don't know.

It has been alleged by some that because they have a belief the real interest rate in this country, based on historical experience, is 2 or 3 percent, that we could sell an indexed bond at something like 3 percent. We don't have any confidence we could do that. It might be closer to 6 percent. We just don't know. We are not convinced that people have that kind of a fix on real interest rates, particularly in view of what's happened over the past decade.

So we're talking about a very difficult marketing situation. You get estimates on the coupon to put on the bond, and some people would say it might be 2 or 3 percent and other people might say it would be 6. It is that kind of very uncertain situation, and I think we would have to feel much more confident of investor needs. We'd want to have some idea of who would buy, some reasonable guess as to price, some evidence of strong investor demand, to make it worthwhile.

Representative LUNGREN. In your statement, you express some concern over a mandated quantity of bonds to be issued, in the event legislation required that. If, in fact, legislation required Treasury to issue indexed bonds but gave flexibility to determine the quantity to be issued, what would you expect the amount—how would you expect the amount to be issued to be determined?

Mr. CAVANAUGH. If we were required, Congressman, to issue indexed bonds, but the amounts were not specified, I don't think the situation would be too different from what it is now, since we do have the authority to issue index bonds. If we were approaching the markets with regard to this quantity question that we ask, we

would try to get the best reading that we could of likely demand, and that would decide the issue.

Representative LUNGREN. No; you see, you say it is similar to the situation that faces you now. Some of us have a concern that if we had a consensus in the Congress that this were an idea that ought to be tried, that unless we mandated a certain quantity, the Treasury would say, well, this is what we have been able to do before, and in our judgment, demand isn't out there, so we are not going to issue any bonds, or we'll issue such an insignificant number of bonds that no test of the approach could be used.

So we're put in the dilemma, if we come up with a consensus that it is a good idea, should we give the flexibility to the Treasury Department or would that be self-defeating, and would we then be required to mandate a certain amount?

I can understand your reluctance to talk about what amount, and so forth, but I hope you'll understand our reluctance in, therefore, saying, let's give full flexibility to the Treasury Department, because then we're not going to get the test we will be looking for.

Mr. CAVANAUGH. I appreciate that, Congressman. The only point I was making was, whether it's mandated or whether it's discretionary, the approach to figuring out the right amount, I would think, would be the same, surveying the market and trying to figure out what would be salable at a decent price.

Representative LUNGREN. Thank you very much for your testimony. We appreciate that and for your taking the time this morning to be with us.

Next we have a panel made up of Mr. David Meiselman of Virginia Polytechnic Institute and Mr. Robert Monks of RAMCo. If the two of you would please come forward and take your places at the table.

I would ask that Mr. Meiselman, who's a professor of economics and director of the Graduate Economics Program in northern Virginia, Virginia Polytechnic Institute and State University, to go first with his testimony. And then Mr. Monks of RAMCo, who previously served as Administrator, Office of Pension and Welfare Benefit Programs in the U.S. Department of Labor.

STATEMENT OF DAVID I. MEISELMAN, PROFESSOR OF ECONOMICS AND DIRECTOR, GRADUATE ECONOMICS PROGRAM IN NORTHERN VIRGINIA, VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY

Mr. MEISELMAN. Thank you very much. I want to thank the subcommittee for this opportunity to present my views on indexed securities.

First I'd like to make a few comments about inflation itself which is the source of some of your concern about indexed securities.

I am considered an expert on inflation. I have devoted much of my professional and academic career to the study of inflation and to analyzing the inflation consequences of unfolding economic and public policy developments. I have testified about inflation before this committee on numerous occasions over the past 20 years. I believe it is not presumptuous of me to state that my knowledge of

current and likely future developments regarding inflation is likely to be superior to most people in the population as a whole.

Yes; I have great difficulty making any specific point forecasts about inflation, especially over the long rum relevant to my personal decisions about preparing for my retirement or the education of my children. I have little or no confidence in my own best guess about the price index 5 or 10 years from now, and I have little or no confidence in any long period inflation forecast, my own included. Like J.P. Morgan said about the stock market, all I can say with certainty about inflation is that it will continue to fluctuate.

I may add that my friends and professional colleagues, who include some of the world's leading economists and inflation experts, many of whom possess knowledge superior to my own, have no greater certainty or clarity of vision that I. Indeed, their best guesses, and they are no more than informed guesses, differ guesses, and they are no more than informed guesses, differ sharp.

The problem, of course, is not their limited expertise but the fact that inflation is largely made by government, sometimes deliberately. No government, including our own, is required to achieve a stable price level. It is not surprising that none does. But sovereign governments do retain the ability to change their policies. And, the art of forecasting what future Congresses will do and what future Government policies will be, particularly the monetary policies that are central to inflation, is even less developed than the art of forecasting distant elections or stock prices. It is one thing to analyze the inflation consequences of particular monetary, budget, tax, and other policies that largely cause and control the inflation scenario. Also, supply shocks are surprises by definition, so they, too, cannot be dependably forecast, either.

The uncertainty about future inflation, as well as the actual inflation itself, imposes heavy costs on our society. Among other things, it means that a wide range of today's decisions that depend on future prices and future interest rates will miss the mark by a wide margin. One result will be, and has been, large-scale, deadweight economic waste as resources are misdirected to less than their most productive uses. This is one reason more inflation now leads to more unemployment. Another result will be chaotic and haphazard changes in wealth and the distribution of income between debtors and creditors. Because inflation induces changes in income and wealth which conform to essentially nobody's concept of distributive justice, the results of inflation undermine the legitimacy of any economic and political system and thereby weaken the fragile glue that holds society together. Historically, large-scale inflation often follows in the wake of war and revolution. The converse is also true, as we have learned from the sad experience of countries as diverse as Germany, China, and Argentina. Revolution and the loss of freedom also follow in the wake of inflation, itself, and even sometimes war, I may add.

These are some of the main reasons I strongly support measures to inflationproof our economy, both by achieving a permanent end to inflation itself—not merely settling for the 4 or 5 percent we have now—and also by widening the range of inflation-lined options available to our citizens. This is why I support measures that would require the U.S. Treasury to issue inflation-indexed bonds. In my judgment, inflation-indexed Government bonds should be

issued over the entire range of maturities, not merely long-term issues. Even if only long-term issues were initially indexed, with the passing of time the original long-term maturities will be converted into a complete range of current maturities. Moreover, it seems to me that the U.S. Government has a moral obligation to investors to offer inflation-indexed securities.

Most of the remainder of the budget is already indexed de jure or de facto. The provisions of the 1981 tax legislation to index income tax brackets for inflation is now in place but it has three major barriers to full inflation indexing. First, capital gains and depreciation are still based on the fiction of historic nominal cost, unadjusted for inflation. One result is that there is inadequate depreciation to reelace used up plant and equipment at current prices. Business profits for tax purposes are overstated and thereby business income taxes are levied on fictitious profits. Second, even when assets lose real value because their nominal values do not keep pace with inflation, any excess over nominal acquisition costs is taxed at capital gains rates.

The third major defect of the current partial inflation indexing of the Federal Tax Code is that there is no adjustment for the inflation premium component of interest rates. Thus, the inflation premium is subject to tax as ordinary income. It is also a deductible expense. This means that inflation premiums must be higher to compensate posttax returns for the costs of inflation. For example, consider a situation with no current or anticipated inflation—that is, stable prices—when nominal—and real—interest rates are 5 percent. For an investor in the 40-percent income tax bracket, the after-tax return is 3 percent. Assume a change from zero inflation to inflation of 10 percent per year, further, fully anticipated.

Using simple interest as a first approximation—and in my example, this is only the first approximation. If interest rates increase the same 10 percentage points to 15 percent per year so the conventionally measured real rate of interest remains at 5 percent, the same investors posttax nominal return is only 9 percent. His real after-tax return is now minus 1 percent because the 10-percent inflation premium is taxed. Still assuming simple interest, for the investor to have the same 3-percent real after-tax return, nominal rates must rise to approximately 21.7 percent per year, or a real pretax rate of 11.7 percent. The additional 6.7 percentage points of the nominal interest rate is the inflation tax wedge to compensate investors—at a 40-percent marginal tax rate—for the tax on the inflation premium.

Using compound interest, which is the correct measure, nominal interest rates would have to increase to 25.83 percent to give a 3-percent real after tax return to investors in the 40-percent tax bracket when inflation is 10 percent a year.

If you do the calculations correctly, which is to use compound interest, these interest rates get significantly higher.

This is why, to achieve full inflation indexing, the inflation premium must be excluded from the tax base. This is also the tax treatment I would recommend for Treasury inflation-indexed securities. Taxing the inflation premium would achieve only partial indexing. This is better than no indexing at all, but it is not a complete solution. Partial indexing would mean that Treasury receipts

would still be augmented by inflation. In effect, the Federal Government would still profit from inflation, inflation largely caused by Government itself. A virtue of full indexation of the debt is that it would eliminate the Government revenues from inflation as well as the ability of Government to repudiate its debt. Unless the profits are taken out of inflation, there is little hope of stopping the inflation process.

I may add that some of the provisions in the Treasury tax reform proposal now being revised include much more appropriate and comprehensive indexing of the Tax Code than exist in the present code. Inflation tax indexing is extended to interest payments and expenses, depreciation, and capital gains. I have reservations about other sections of the Treasury I proposal but I strongly support the inflation imdexing provisions. I would hope the administration and the Congress retain these useful and important inflation-indexing components.

It is now generally accepted that nominal interest rates contain a premium to reflect anticipations of future inflation. In addition, the almost unbounded uncertainty about long-term inflation means that investors attach an additional risk premium to nonindexed Government bonds beyond the inflation premium itself. The instability and uncertainty surrounding inflation forecasts also explains why, for some years now, prices of Government bonds have generally fluctuated more than stocks, as measured by any of the broad stock indexes. Disinterested scholars have estimated the inflation uncertainty premium in long-term Government bonds at between 3 and 5 percent. This may explain why conventionally measured real interest rates remain so high.

Inflation indexed bonds would eliminate this uncertainty premium. This would lead to large savings in the Treasury's interest expense and would thereby contribute significantly to deficit reduction.

There is an additional virtue of inflation-indexing Federal Government obligations. Indexed Treasury yields would permit linking other interest rates to them, which would facilitate further inflationproofing of the private sector. Inflation-indexed Treasury bonds would also make it possible to achieve a new range of inflation-proof financial products. For example, pension and annuity funds holding indexed Government bonds could easily promise and deliver inflation-adjusted retirement and annuity payments, life insurance companies could guarantee real death benefits and the like.

Pension funds are already tax exempt and would be the major buyer of the indexed obligations.

In fact, to help avoid the reinvestment complications, it would be useful if the Treasury issued zero coupon inflation-indexed securities in addition to traditional coupon bonds. At the very least, there should be no statutory or regulatory barriers to private sector stripping of indexed coupon issues to convert them to indexed zero coupon bonds.

Investors in financial markets have been struggling for years to find ways to hedge against inflation. I find it almost unbelievable that Treasury officials would say that they do not believe there's much of a market for these kinds of securities. That's precisely why interest rates are so high. That's precisely why security mar-

kets have done what they have done. As people have tried to get out of securities, they get murdered by inflation. I can't believe that there is no market for indexed bonds. Treasury debt nanagement policies have not helped much in this caused erosion of real values that effectively amounts to partial repudiation of the public debt. The repudiation is salami style, one slice at a time with each increase in the CPI, but repudiation nevertheless.

People have searched for historical associations of inflation with this or that financial index or commodity price in order to find some workable mechanism to hedge the inflation risk. In fact, perhaps the single most frequently asked question savers and investors pose is, "How can I protect myself against inflation?" Whatever past historical associations may have been, none have been consistently dependable in recent years, including short-term interest rates.

The bankruptcy courts are littered with the corpses of businesses and individuals who placed heavy reliance on some rule of thumb that just happened not to work out quite the way it had in the past. The old rules of thumb about good inflation hedges that went wrong include equities, short-term interest rates, gold and precious metals, collectibles, diamonds, farm land, commodities, timber reserves, and on and on. The only dependable way to hedge against inflation is to link values to a broad price index representing inflation itself rather than linking values to the prices of individual components of the average. A Treasury obligation indexed to the Consumer Price Index or a similar price index offers one such dependable inflation hedge.

The most recent and the most promising, in my judgment, private sector development in the search for effective mechanisms to control inflation risks is futures market in the Consumer Price Index at the New York Coffee, Sugar, and Cocoa Exchange. The Commodity Futures Trading Commission recently approved the new contract, and trading is scheduled to start on June 21. Like other futures markets, the new CPI futures market will permit price discovery in the sense that it will indicate what the market believes future inflation is most likely to be. Just as people now check the newspaper to see today's price for wheat or corn to be delivered next October, you will soon be able to see the market's estimates of future inflation reported daily in the financial pages. I find this more revealing and dependable than the usual polling of 10 economists who unavoidably tend to give at least 25 different forecasts.

The new CPI futures market will permit the calculation of inflation adjusted real market interest rates and will give borrowers and lenders the option of doing business on the basis of either nominal or inflation adjusted rates. Also, like other futures markets that permit risk shifting, hedging, and other risk management and risk control measures, the new CPI futures market will make it possible for individuals and financial institutions to engage in "Do It Yourself Inflation Indexing." Another result will be the creation of a whole new range of financial products and services it seems to me the country has been crying out for.

I devoutly hope the Treasury does issue inflation-indexed obligations. However, even if this should not come to pass, the market,

itself, through the mechanism of the new CPI futures market will be able to achieve some, but not all, of the same results.

If the Treasury should not move to issuing inflation-indexed obligations what would be achieved is a higher than necessary interest cost of servicing the public debt, and an enormous volume of Government debt made less valuable to Government bond holders and thereby more costly to taxpayers. What would be left unachieved is the opportunity to reduce the interest burden of the national debt and untouched incentives to inflate to pay off the debt with cheapened dollars, an insidious form of repudiation.

I welcome the new CPI futures market. I would also welcome some constructive and long overdue innovation in Treasury debt management, particularly in offering inflation-indexed obligations.

Representative LUNGREN. Thank you, Professor Meiselman.

And now we'll hear from Robert Monks from RAMCo.

STATEMENT OF ROBERT A. MONKS, PRESIDENT, ROBERT A. MONKS & CO. (RAMCo)

Mr. MONKS. Thank you very much, Congressman Lungren and Senator Abdnor.

I ask your consent to enter my prepared statement in the record and I will just summarize.

Representative LUNGREN. Without objection, so ordered.

Mr. MONKS. I would like to speak very briefly and by way of contrast with Mr. Meiselman, I'm not an expert on inflation. Indeed, I come to you with a very simple optic.

I am the retired Administrator of the Office of Pension and Welfare Benefit Programs. The position hasn't been filled so I don't know if I have holdover rights or not, but I really come to you to answer a question that has been posed several times today and that is, Are there customers for this product?

Senator Quayle spoke about the possibility of an inflation-indexed bond being attractive. Professor Meiselman spoke about that, I thought, with passion. Mr. Cavanaugh wondered whether there were customers for the product.

What I want to suggest to you today from my very narrow optic, having been responsible for the administration of a pension program, is that inflation-indexed bonds are the ideal investment for a pension plan.

There are many people more competent than I. One is sitting at my right. Mr. Cavanaugh, who is sitting behind, is far more competent than I to talk about the macroeconomic implications.

I will talk, with your permission, about only one facet and that is whether some thousand billion dollars that are now invested, subject to ERISA, in America's funded pension system could not benefit enormously, indeed uniquely, from having inflation-indexed bonds.

Let me briefly outline ERISA for you, Congressman. One of your colleagues from the Berkshire district of Massachusetts said the acronym ERISA stands for "every rotten idea since Adam." [Laughter.]

Representative LUNGREN. That's been taken over from Congress.

Mr. MONKS. I have never had a chance to ask Congressman Conte whether under my administration he changed his views. But on the other hand I suspect the acronym was too clever for him to take it back.

Essentially, ERISA was passed 10 years ago in 1974 and signed by President Ford on Labor Day. It covers some 800,000 private plans. It covers some 4 million welfare plans. It covers some 75 to 80 million Americans. It's a lot of money, $1,000 billion—$1 trillion, if you will.

This money, by and large today, is invested in marketable securities. I want to just ask you to consider for a minute the nature of pension promises. Unfortunately, the Congress couldn't agree on the nature of the pension promise in the debates prior to passage of ERISA and haven't since. It seems to me that it is reasonable to expect that what the Government wanted pensioners to have was a high level of security, of a level of income that would have some sustained purchasing power.

Now, if you think that that is what the pension promise is, what is the lowest risk security available? What is the only way in which you could have a guaranteed level of maintenance of purchasing power? And what is the kind of security that can be purchased at any time, like when you retire—not when the market is high or the market is low—and can be worth something at any time? The answer to that question is an index adjusted Governnent security.

What this does is this gives small pension plans—suppose you have an IRA and you want to be certain that a given time at retirement you have retirement benefits. There is no security that will give you that level of assurance even close to what an inflation-indexed bond would do. It is important to understand what happens to pension moneys now. And the reason I'm consistently grateful for your being willing to have me testify today is that there's always been a concern and a very legitimate concern that Government would stuff a lot of poor investment ideas in the pension plans.

Indeed, the passage of ERISA had a lot to do with Congress' apprehension that people were serving objectives other than the beneficiaries' objectives in their investment ideas.

It's a whole lot more attractive for politicians to have the pension fund fund the dams you were talking about, Congressman, than it is to have the taxpayers do it.

So the Congress, in setting up ERISA, required that every plan have a trustee and that the trustee invest prudently. How have they invested? They have invested in marketable securities. What has been the result? We don't know. It's an embarrassment. We don't know' The statistical material of performance is inadequate. I hope over time that some of the data will be generally agreed upon, but I would hazard for your present consideration that taken across the board the investment of ERISA money has not kept track with inflation, has not kept track with the Standard & Poor's average and, in fact, would represent dollar for dollar a less attractive investment than inflation-indexed bonds.

It is, therefore, from the optic of the pensioner that I submit to you that far from involving a drain on the pension system, the availability of inflation-indexed bonds would represent a boon to

the pensioner; it would particularly to the small pensioner whose alternatives now are not all that great because the administrative costs are quite substantial according to "every rotten idea since Adam." It's not cheap to set up a retirement benefit plan.

So I think that the perspective for your discussion should be enlarged to include a tremendous demand factor, a very large needy and very large customer—some thousand billion dollars of the American pension system—and from my point of view as a former administrator of pensions, I can tell you that I come to you saying please make this available. It's not a matter of deeply obligating trustees to purchase plans. It's a matter of making it available.

If this security were available it would be possible, Congressman Lungren, Senator Abdnor, to have an effective monitor on the investment performance of pension plans. The reason is this. If there is, by hypothesis, the lowest risk security in the world—U.S. Government security—that produces a real return, a trustee who buys other securities and loses money will run a very real risk of being surcharged because you always could buy the lowest risk security—the inflation-indexed bond.

So I feel as if you're making available—and I don't know what size—but you're making available a sizable offer here that would revolutionize the investment of the largest pot of money in the world, which is the amount of money subject to ERISA.

And I think it would be a very constructive result because, as I sit before you today, I do not have confidence that over the 10-year period, the investment of ERISA funds has yielded real returns and has honored pension promises that Congress made to working Americans.

[The prepared statement of Mr. Monks follows:]

PREPARED STATEMENT OF ROBERT A. MONKS

Mr. Chairman, members of the Committee, thank you for asking me to join you this morning. My name is Robert Monks; from December 1983 to January 1985, I served as the Administrator of the Office of Pension & Welfare Benefit Programs in the U.S. Department of Labor. This office is charged with administering the Employee Retirement Income Security Act, commonly known as ERISA. It is in the context of ERISA that I will speak about inflation-indexed government bonds.

Let me briefly outline the status of private pension plans governed by ERISA as background. ERISA was passed in 1974; while the establishment of private pension plans is voluntary, any plans which are created are subject to ERISA's provisions. The Act was successful in prompting the creation of many new plans; currently there are more than 800,000 private pension plans reporting annual data to the federal government. ERISA stipulates that a trustee be named for each pension plan; the trustee is responsible for making sure that all plan assets are held solely for the benefit of plan participants. Currently assets invested under ERISA plans total approximately one trillion dollars. It is estimated that private pension plans control more than one quarter of the publicly traded equity in U.S. corporations, and almost half the debt.

I. FUNDING THE PENSION PROMISE

During my tenure at the Labor Department, we conducted extensive reviews, some in the form of hearings, on ERISA's impact. In January of this year, we held hearings on investment performance and corporate governance. Witnesses confirmed that the risk of sudden change in the economic climate make it essential that successful investment

strategies be flexible, with the ability to shift assets as prices, values, returns and prospects change.

The best strategy, therefore, for institutional investors generally is to have quick access to a different investment posture. But is this necessarily a correct posture for pension funds? Pension funds' needs can be simply stated: to provide at minimum risk a series of payments at known future intervals that will have purchasing power bearing a pre-determined relationship to salary levels then obtaining. It is clear that such a security exists in theory: an inflation-indexed U.S. Government bond.

If the definition of objectives has been accurately stated above, it is difficult to justify taking any risk beyond that necessary to achieve the stipulated goals. In other words, if the inflation-indexed government bond produces exactly the needed results, what excuse can there be to incur any risk to achieve results which are surplus, and therefore by definition not for the exclusive benefit of the pension plan participants? For whom is the manager managing? The statute and its exclusive benefit rule are unmistakable in stipulating that all plan assets must be held solely for the benefit of the participants. And yet the existence of pension plans is wholly voluntary. Any excesses above vested benefits can be returned to the corporate sponsor in the event that he in his uncontrolled discretion decides to terminate the plan. Many companies have, in fact, terminated their plans in recent months.

There is an obvious conflict. As one witness in the January hearings put it :...[T]he people who are managing the funds do not have the same interests as the beneficiaries of the funds." The "wise men" want to invest pension funds prudently, as prudence has been defined in their other fiduciary incarnations. However, assuming the ERISA pension requirements can be met today by providing the legally required cash flows from government bonds, does not a sponsor and possibly his delegated managers run the risk of surcharge for losses incurred by risks in excess of those necessary to achieve the plan's objectives? If the only use of excess funding is for return to the sponsor on termination, or as a reduction of immediate funding obligations by the sponsor, is there not an actionable conflict of interest in taking risks beyond those involved with a "dedicated bond portfolio?" The inflation-indexed U.S. bond doesn't exist, but the problem of conflict of interest bears substantial further attention.

Many of those testifying objected to indexing on the grounds that if everybody indexed, there would be no freely

created market values any longer. Thus, the need for statistics becomes the operative consideration. A further concern relates to separating the fate of pension recipients from the rest of the economy. As a witness stated: "A government issuing a real rate bond with a real rate guarantee could end up subsidizing pension funds." There seemed to be no objection to inflation-indexed bonds from the point of view of achieving pension policy objectives.

II. HYPOTHETICAL SAVINGS IN U.S. DEBT SERVICE COST

Analysis of the potential impact of indexed bonds on the federal deficit, based on the assumption that $150 billion of indexed debt could be assumed per year, indicates possible savings of as much as $45 billion in the fifth year of experience or $135 billion over the entire 5-year period. The total issue in year five would represent 60 percent of projected private pension assets.

Current rates (all interest data is accurate as of summer 1984) on 90-day notes are 9.77 percent. Let's say the inflation rate is roughly 4.77 percent; the real interest rate is thus in the vicinity of 5 percent. But long-term nominal interest rates are much higher. Three-year notes are selling at 13.46 percent; 10-year notes at 13.79 percent. This suggests that the market expects long-term inflation to be significantly higher than current inflation. For example, if real rates are expected to stay at five percent, the market appears to predict inflation to jump by 4 percentage points to 8 percent (that is, the 4 point increase in expected inflation is roughly 13.79 minus 9.77).

These numbers suggest that if the government plans on maintaining a 4.7 percent inflation rate, then the Treasury is needlessly overpaying its long term investors for feared inflation, which in fact will never take place. The numbers above suggest that the overpayment runs in the vicinity of a 4 percent interest rate premium.

To the extent that the Treasury raises all of its funds from the short-term market, there is no wedge between the government's and the market's inflation expectations. That is, suppose short-term investors simply roll their notes over ad infinitum; it's almost as if they are holding indexed bonds: they always get the real interest rate plus the going inflation rate. But the Treasury raises approximately 20 percent of its funds by issuing notes with a 10-year or longer maturity date, and 40 percent from mid-term notes (1-5 years).

Suppose the government does not try to convert outstanding debt to indexed bonds; it only considers issuing indexed notes in the future. If the deficit remains in the range of $250 billion (1984 dollars), and if Treasury finances it all by issuing debt (it can't print much money if it plans to maintain inflation at a 4 percent level) then approximately $150 billion will be financed by notes of maturities from approximately 3 to 20 years.

Under our assumptions, an indexed bond would ultimately pay 7.7 percent per year nominal (4.7 percent inflation, 3 percent real). Non-indexed bonds will fetch 13.7 percent.[1/] Thus, in the very first year, the Treasury will save $9 billion (6 percent lower interest rate times $150 billion in mid and long term notes). If the market rate for non-indexed bonds remains at 13.7 percent and if inflation is maintained at 4.7 percent, the savings continue to mount over time.

In year two, the $150 billion debt issued in year one is still outstanding and another $9 billion is saved. But in addition, another $150 billion debt is issued resulting in a second $9 billion savings. Thus in year two, the total savings is $18 billion. By year five, $750 billion in indexed debt is outstanding and the savings mounts to $45 billion. Over the entire 5-year period, the cumulative savings amounts to $135 billion.

Presumably, indexed notes would be made available to all investors. But suppose they are issued only to pension plans. Could they handle it? Current pension holdings are approximately $900 billion. Five years from now they will reach $1.2 trillion (in real terms). Thus in year one, $150 billion could be absorbed with less than 20 percent of pension monies; in year five, $750 billion in indexed bonds would represent approximately 60 percent of pension holdings. Yes, pension plans could handle the load, but in the out-years their portfolios would begin to get dominated by these issues.

It must be recognized that issue of a new security (especially if issued exclusively to pensions) would shock the market. A massive switching could occur as investors begin rearranging their portfolios. If pensions accepted all the indexed bonds, the private sector would experience a big outflow of pension monies (to be replaced ultimately by

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[1/] Walters, Alan, "How to Reduce the Burden of Debt - - Honestly", The AEI Economist, March 1984, page 8.

non-pension monies pushed out of government debt by pensions). For this reason, it would be prudent to issue indexed bonds on a limited basis. The $150 billion number mentioned above would appear to represent a practical limit.

III. THE BRITISH EXPERIENCE

Britain decided to issue "indexed gilts" in 1981 when confronted with real interest costs comparable to those we face today in the United States. A recent English money report describing that country's experience with financing "national debt" with indexed securities is a useful analysis of the risks and opportunities: "Indeed in late 1981, nominal yields on long-dated conventional stocks stood at over 16%. The Government was committed to 'defeating' [bonds in U.S. parlance] inflation. Even if this was taken to mean bringing inflation down to 6%, this would imply a real funding cost of 10% per annum. If the Government succeeded completely, it would mean a real funding cost of 16%. And in some cases this cost would continue well into the next century. A real funding cost of 10% would impose an enormous burden on public finances. Having to raise the sums through taxation would incur the usual disadvantages - - distortions to the market, and reduced incentives - - and might provoke further inflation.

Unless government expenditure were cut to make room, the only other way open would be financing a larger deficit. This would incur the usual problems of deficit finance and again could worsen inflationary forces. In other words, whichever way the problem came to be addressed, the high nominal coupons being paid on conventional stocks [bonds] could directly serve to inhibit the reduction of inflation. Moreover, avoidance of the problems created by the combination of high-yielding debt and low inflation would constitute a disincentive to the Government to reduce borrowing.

Recognition that the issue of index-linked stock [bonds] diminished the Government's interest in inflation itself provided another motive for issuing them - namely to influence expectations. Since their inception, the authorities have believed that their policy of avoiding the issue of conventional long stocks [bonds] and reliance instead on index-linked has helped to reduce the market's own expectations of inflation, and thereby assisted the disinflationary thrust of the Government's policy.

But the authorities were not always of one mind on this question. Before they were first issued there was a strong

view, apparently held, amongst others, by the Governor of the Bank of England, that if the Government issued indexed stock this would help to spread the view that inflation was here to stay and to diminish the incentive to reduce it. If parts of the private sector responded by introducing indexation themselves this could put the country well on the road to institutionalising inflation.

In the event, these fears have proved unjustified, but it is worth noting that at the time of writing, [as of fall 1984] similar considerations are a major obstacle to the U.S. authorities' issuing indexed bonds. In the United States, it is widely believed that the issue of indexed stocks would, by protecting some of the private sector against inflation, reduce the extent of the political constituency against it, and thereby subtly serve to encourage it.

It must surely be true that to the extent that investors are protected from inflation they are less of a force against it but, as we have shown above, the opposite is true for the Government. In our view, since the Government has a major bearing on inflation (e.g. through its monetary policy), it is far more important that it should have an interest in disinflation. After all, investors have hardly proved a powerful force against inflation in the past."

IV. - CONCLUSION

From the point of view of the beneficiaries (now estimated at over 70,000,000) of the U.S. private pension system, inflation-indexed U.S. Government bonds represent the ideal funding mechanism, combining

1. Lowest risk;
2. Stream of payments with assured maintenance of purchasing power; and
3. Protection against market conditions at the time of funding or of retirement.

Representative LUNGREN. I thank you, Mr. Monks.

Let me just say one thing. It is amazing in 1½ hours we have gone from no demand to one heck of a demand, perhaps the biggest demand you could find anywhere.

Mr. MEISELMAN. Congressman, may I add a footnote to that?

As one of the people in that group, sort of the anonymous group you are talking about, I have been a college professor for many years and if I think back at the money that was taken out of my salary or that my various universities have put into pension funds, I don't know whether to cry or get angry, and these are well-managed pension funds, I suppose, by TIA CREF, where most of the professors have their money.

The fixed income component of that has been eaten up by inflation. The great innovation to have a variable annuity in CREF went no place because they put the money in stocks.

So the real return—this is without taking taxes into account—that I have had on that is negative. There is less real purchasing power than when I put that money in years ago.

Mr. MONKS. You are talking to the only man in America with a real pension.

Mr. MEISELMAN. Well, now I have a pension from the Commonwealth of Virginia that is indexed.

Mr. MONKS. I am talking about the Government pension.

Mr. MEISELMAN. Well, I have a pension in addition to the annuities from TIA CREF that is indexed—that is partially inflation indexed. So I have something.

And the Commonwealth of Virginia would not have responded that way had it not been for the huge demand on the part of their employees.

Representative LUNGREN. Professor Meiselman, let me ask you this question: What about the fears some opponents of this idea have that if you do this you take off the pressure on the people in Government to try and keep inflation down?

Mr. MEISELMAN. I think the argument is quite the opposite. If these payments were indexed, then the administration that was involved with the inflation would have to pay the bill at that time.

I have been in the Treasury, and I recall, not with any great pleasure, various discussions about what the likely budget would be based on alternative scenarios and what the alternative revenues would be based on alternative inflation scenarios, and I still recall the pained look on the faces of some important people who shall remain unnamed at the revenue consequences of a decline in inflation. They would say we can't afford that.

The incentive is there, and we know it is all there because the Government gets revenue from the inflation, and there are lots of nice people out there that would like to spend it. And if the incentive is there, you can be sure that people will respond.

So I think that we have a theoretical basis, and it is our experience and my own experience that there is a practical basis for that, too. Unless you take the profit out of inflation, I don't see any way that it can be stopped.

Representative LUNGREN. I agree with you.

Mr. Meiselman, in your statement you noted that the CPI futures would soon be made available, and you indicated they might

sort of serve a similar purpose as to what we are attempting to do with this idea of indexed bonds.

But does this development—that is, of the CPI futures—undermine the case for inflation indexed bonds?

Mr. MEISELMAN. Not at all. To me that is a reflection of the strong and serious demand for some kind of protection against inflation. The private sector has been struggling for years to find mechanisms to do the job. They have been singularly unsuccessful. This is another attempt to do that, and I would hope they will be successful. I anticipate they will be successful.

But it does not serve the full range of purposes that the indexing of Government obligations would serve, and I pointed that out in my statement.

Representative LUNGREN. There have been a number of objections raised by some in the Treasury to inflation indexed bonds.

Do you think there is an institutional reason for any elements in the Treasury to oppose this innovation?

Mr. MEISELMAN. I think there are some people that are just comfortable with what they have. Any innovation is vexing.

Representative LUNGREN. Do you see a danger? There was an expression of concern; that is, they move with deliberate caution because of a fear of undercutting the credibility of the Treasury in marketing their bonds if they were to put this idea out to the market and there would be no response to it.

Mr. MEISELMAN. I don't see that at all. First of all, I don't believe that there would be no response. It is not only my judgment; it is the judgment of Mr. Monks, who has been more involved with the pension funds, that would be only one of a large number of purchases of securities. As somebody who is starting to think seriously about his own retirement for the first time, I personally would be very interested in that, and there is an enormous demand.

If we didn't have this kind of a demand, we wouldn't have the market response to inflation that we have. We wouldn't have security prices and asset prices and real estate and so many other different kinds of activities that we have observed. I can't believe that there is no demand out there.

Representative LUNGREN. Mr. Cavanaugh indicated that some make the argument on behalf of the idea of inflation indexed bonds with the premise that the true real rate of interest in the country is about 2 to 3 percent, and he went on to say that this is particularly questionable in view of the experience of the past decade.

How do you analyze that?

Mr. MEISELMAN. Well, historically, if you take off the current inflation rate—it used to be 3 percent. Now it is significantly higher. It is a puzzle, and some of the answers to the puzzle are, first, that these calculations were made on a pretax basis. Once you include the payment of a tax on the inflation premium, the return is not that high—the post-tax return.

For example, today a Treasury bill yields 7.5 to 8 percent. Well, if the inflation rate is now 5 percent, as it has been recently, or even 4 percent, and if you are in a 40-percent bracket, it means that your after-tax nominal yield is 5 percent, which is not that different than the inflation rate. What is the big yield on that?

Now, for long-term bonds, the yield would be somewhat higher. But then in addition to that, you not only have to take the tax into account but the Treasury bonds have been among the most speculative and uncertain securities that we have. Who would buy and hold 30-year bonds in recent years?

So that has been the big crap shoot in financial markets, and it is because of that uncertainty and the variability that I mentioned in my formal remarks that there is also an additional premium for the risk of holding Government bonds—not only the variability month by month and year by year but also the uncertainty about the inflation.

So the conventionally measured real rate of interest has to include those two components.

Representative LUNGREN. Mr. Monks, in your view, do you see any undue risk to the Federal Government with respect to a limited trial offer of U.S. indexed bonds?

Mr. MONKS. I do not.

Representative LUNGREN. Do you think that we would see a demand that is fairly immediate as opposed to one that would be tentative and that might interfere with the possibility of a real trial?

Mr. MONKS. I believe that the impact of indexed bonds on fiduciaries would be very quick and very dramatic, and I think that having available a minimum risk security with these characteristics would pose for the first time a substantive prudence for investors, and I believe that that would create a very large demand, particularly from small plans.

Representative LUNGREN. That leads me to my next question, which is—you are obviously very supportive of the idea of indexed bonds and their attractiveness to pension funds—do you think they might be as attractive for use in other retirement vehicles?

Mr. MONKS. For example?

Representative LUNGREN. Individual IRA's, and so forth.

Mr. MONKS. Yes. Excuse me, Congressman. I think they would be uniquely attractive for IRA's, and I think they are almost designed as a perfect security.

Representative LUNGREN. In your testimony—your prepared statement—you talked about the British experience with indexed gilts, and based on your study do you find that these British bonds have been popular with investors?

Mr. MONKS. I spent some time in talking with the people in the Treasury in England, and I can only characterize their response as bewildered. They thought they were a success, but they weren't as much in demand as they thought they would be, and they didn't quite know why.

As I listen this morning, it may well be that having the tax-exempt characteristics meant they didn't have an institutional home such as fully taxable bonds would have with us. That may be the reason.

But I cannot answer your question directly since they were somewhat confused at getting mixed results.

Representative LUNGREN. Professor Meiselman, one of the concerns expressed by Treasury as well as other opponents of this idea is that because of the unpredictability of inflation, in fact, if we

were going to go to indexed bonds, in part because we think they would save the Federal Government in servicing its debt, that we may in fact do the very opposite; that is, that the cost may increase to the Government in terms of servicing its debts. How would you respond to that?

Mr. MEISELMAN. Normal cost would increase if in fact inflation went up, and I view that as a virtue.

Representative LUNGREN. In other words, the Governnent pays for that which it brings to the people?

Mr. MEISELMAN. Now, I view that as a great virtue of indexed securities, just as I now view the lack of that as a great shortcoming of the existing type of security. And that is part of the incentive to inflate.

Representative LUNGREN. In your statement, Mr. Meiselman, you say that all bonds should be inflation indexed.

Mr. MEISELMAN. I don't think——

Representative LUNGREN. All Treasury bonds.

Mr. MEISELMAN. All maturities.

Representative LUNGREN. What would you think would be the appropriate treatment of short-term securities?

Mr. MEISELMAN. The same thing, because I don't see why we should—all maturities should be indexed because we have investors that have different maturity preferences. A man who is 35 years old may want to buy a 30-year bond. Somebody that is already retired—he may be 70 years old—may want to buy a 5-year security, et cetera.

Representative LUNGREN. So we should be neutral with respect to the indexing feature?

Mr. MEISELMAN. Well, I think that we should issue indexed securities at all maturities. In addition to that, even if we only started out issuing 10-year indexed securities, after 1 year has passed the original maturity of 10 years now has a current maturity of 9 years. So each year, if you continue to issue bonds, then through time the current maturity would reach over the full spectrum of maturities and bonds are priced on a current maturity basis.

We now have bonds that might have been issued 20 years ago that will mature in 6-months. They trade like a 6-month Treasury bill.

Representative LUNGREN. Mr. Meiselman, do you have any observation on the British experience with indexed bonds?

Mr. MEISELMAN. Not enough really to give you a sufficiently informed comment at this point.

Representative LUNGREN. The other thing I would just ask you is this. In response to Mr. Cavanaugh's observation that—well, he observed in addition to Britain we had Israel and we had Brazil, which he indicated were high inflation countries that have indexed bonds. I hope he didn't mean—and I am sorry he is not here so we could ask him with the rest of you on the panel—I hope he didn't mean to suggest that somehow the indexing of the bonds contributed to the high inflation of Israel or Brazil. It seems to me those things follow on to an already existing high rate of inflation, and I would expect it would be difficult, if not impossible, for those countries to market any bonds whatsoever if they weren't indexed,

given the tremendous rate of inflation they have had for considerable periods of time.

Mr. MEISELMAN. I know something about those countries, and I would agree with you.

Mr. MONKS. Congressman Lungren.

Representative LUNGREN. Yes.

Mr. MONKS. One factor that is conspicuous is that each of the OECD countries, other than the United States, offers inflation-indexed pensions—Sweden, Germany, Switzerland, Japan. We are the only country as far as I know that does not explicitly offer inflation-indexed pensions.

Representative LUNGREN. Does that include England?

Mr. MONKS. It includes England.

Representative LUNGREN. I want to thank the panel for being here to testify.

There is just a whole ream of subject matter that we could go into based on this. This is the first, hopefully, of a series of hearings that we might have on this subject. As I mentioned, I have a bill in the hopper to try and at least introduce the idea.

I don't know if our particular concept is the best one, but I would just like to get this issue out there and more thoroughly discussed so that maybe we can overcome some natural institutional reluctance to try something innovative that may exist here in Washington, both on the Hill and elsewhere.

Congress has got to do a better job on the full question of trying to bring the deficits down, and I would hope we would deal with that primarily on the spending side, but I would hope that we wouldn't just throw away an idea—throw away an opportunity to look at an idea that I think holds some promise.

And I want to thank both of you for giving us a view, as I would also thank Senator Quayle and thank Mr. Cavanaugh for appearing before us.

I hope it is an idea that Congress will seriously consider this year. Thank you very much for your testimony.

[Whereupon, at 12 noon, the subcommittee adjourned, subject to the call of the Chair.]

APPENDIX

Statement of Senator Paul S. Trible in Favor of Indexed Bonds

Mr. Chairman, Members of the Committee,

I am pleased to testify in favor of Senator Quayle's bill S.1088, "The Price Indexed Bonds Act of 1985", which I have cosponsored.

I support the Quayle bill because it represents an innovative approach to financing our National Debt which can save the federal government and federal taxpayers a great deal of money. The risks are minimal, and easily controlled through prudent monetary policy. In addition, indexed bonds will improve the climate for saving, and will force the federal government to deal honestly with its creditors.

Indexed bonds will hold down federal borrowing costs--one of the largest, fastest growing, and least tractable elements in the federal budget.

Indexed bonds are less expensive for the issuer than ordinary bonds whenever actual inflation is less than expected inflation during the same period.

This is just such a period, Mr. Chairman, as numerous witnesses have testified before the Senate Banking Committee. Unwarranted fear of future inflation is the basic explanation for today's historically high market and "real" rates of interest. In this climate, it is foolish not to issue indexed bonds.

There are some risks to issuing indexed bonds, Mr. Chairman, and these should not be overlooked. From a budget point of view, the main risk is that inflation will exceed expected inflation in the future, or, in other words, that there will be unexpected future inflation. Such an unpleasant surpise would drive indexed interest costs above unindexed interest costs.

However, it is important not to overstate this risk. As long as the Federal Reserve announces its broad monetary policies, there is little chance of systematic underestimation of future inflation. So, indexed bonds will generally be less expensive than unindexed bonds. And as long as the Fed adheres to a policy of gradual reduction in money growth and inflation, the risk of "surprise" increase in indexed financing costs are minimal.

Even if indexed bonds did not save money, Mr. Chairman, they would be desirable in their own right.

They would encourage saving by reducing uncertainty about the rewards for saving, for example. Savers acquiring indexed bonds are assured of a positive "real" rate of return on their money--no matter what inflation turns out to be. In contrast, the purchaser of an ordinary government bond has no certainty about his "real" return, since that return can be reduced, eliminated, or even turned negative by unexpected inflation. Thus, from a saver's point of view, indexed bonds are a definite improvement over the status quo.

In addition, indexed bonds would force the government to deal honestly with its creditors. This has not always been the case, Mr. Chairman. During the 1960's and 1970's, when money growth and inflation accelerated unexpectedly, the federal government effectively plundered its unindexed creditors of billions of dollars of purchasing power. Borrowers always benefit from unexpected inflation, and creditors lose, and those two decades were no exception.

With indexed bonds, government would be unable to plunder its creditors by printing money and causing unexpected inflation, since indexed interest costs would immediately increase

and creditors would be protected.

For this reason, indexed bonds would take some of the "profit" out of unexpected inflation, and would discourage inflationary policies. That is all to the good.

To conclude on indexed bonds, Mr. Chairman, I urge the Committee to promote the Quayle initiative. It will save lots of money, improve savings incentives, and make the government deal honestly with its creditors. It will also remove an existing incentive for government to deliberately increase inflation.

Thank you, Mr. Chairman, for this opportunity to testify.

The Heritage Foundation Backgrounder

No. 433

May 14, 1985

PRICE-INDEXED BONDS: TRIMMING $12 BILLION FROM THE DEFICIT

INTRODUCTION

The deficit problem has legislators scrambling for ways to save money in the federal budget. In this quest, it is almost universally assumed that interest on the $1.6 trillion national debt is an item that cannot be cut. This consensus is wrong. Interest outlays in fact can be trimmed through price-indexed bonds, a device that Congress should consider.

The U.S. Treasury is now paying an interest rate of over 11 percent on much of the national debt. The $111 billion interest payments for 1984 equalled 3.1 percent of Gross National Product (GNP) or 13 percent of the federal budget. This amounts to nearly two-thirds of the deficit. By FY 1989 interest payments are projected to exceed 4 percent of GNP ($214 billion) and 16 percent of the budget. Throughout the 1970s, the debt service burden averaged just 1.6 percent of GNP and 8 percent of the budget.

Inflation averaged less than 4 percent throughout 1984, yet ten-year Treasury bond rates paid 12.4 percent. These high real rates paid by the Treasury--as much as 8.5 percentage points higher than expected inflation--bloat current spending and lock the government into heavy outlays long into the future.

There clearly is an immediate need to control the growth of interest payments. To do so, Congress must consider innovative methods of financing the debt. One means of doing so would be for the federal government to issue price-indexed, inflation-proofed bonds. Several bills have been introduced in Congress that would require the Treasury to introduce such bonds. The Joint Economic Committee is scheduled to hold hearings on May 14. Switching entirely to such bonds could reduce current interest outlays by up to $30 billion and achieve a net cost saving of $15

billion in the first year of implementation. Even a modest, practical first step toward indexing could cut outlays by over $12 billion. That would be a significant move toward reducing the deficit without raising economically damaging new taxes.

WHAT ARE PRICE-INDEXED BONDS?

Price-indexed, or purchasing power, bonds pay a fixed rate of interest that is as close as possible to the normal "real" return on capital. Though the rate of interest is fixed, the nominal value of the bond is adjusted for inflation periodically. Hence the "coupon" payment--the product of the nominal value of the bond and the interest rate--varies with inflation.

A conventional bond loses purchasing power as inflation mounts. Normally an investor compensates for this by demanding an "inflation premium," or higher interest rate, based on the investor's estimate of future inflation. The rate of interest demanded by the investor usually is bloated because he is not completely confident that his estimate of inflation will be correct. The less certain the bondholder is about future inflation, the higher the so-called "risk premium" that he demands as interest.

In the case of a price-indexed bond, however, the investor is guaranteed a real return each year on his investment, because the Treasury agrees to compensate the investor fully for inflation when the bond matures. Because the indexed bonds protect investors from losses associated with unexpected changes in the rate of inflation, they reduce the risk premium investors demand to compensate them for assuming the high risk of uncertain inflation. This, in turn, reduces the total cost to the Treasury of issuing the bond.

For example, a $1,000 price-indexed bond would work as follows: Instead of promising to pay $120 in coupon payments every year on a conventional ten-year, 12 percent bond, the Treasury would agree to pay price-indexed bond holders an annual interest rate (probably about 3 percent) that reflected the typical real yield on assets. If there were no inflation, the coupon payment--the interest rate times the nominal value of the bond--would equal $30 each year. If inflation in the first year were 10 percent, however, the nominal value of the bond would be adjusted to $1,100 ($1,000 plus $100 for inflation), and the coupon payment raised to $33 ($30 plus 3 percent of $100). At maturity the Treasury would pay the bondholder the face amount of the bond ($1,000), plus compensation for the loss of real value resulting from inflation. For example, if prices doubled during the period, the Treasury would pay the bondholder $2,000 at maturity.

HOW INFLATION RISK AFFECTS INTEREST RATES

There are two traditional, and incomplete, ways of looking at the components of the interest rate. The most popular analysis of the interest rate simply subtracts the current rate of inflation from current nominal interest rates to ascertain "real" interest rates. Thus, if the nominal interest rate paid on a bond were 11 percent, and the inflation rate were 5 percent, the real rate would be said to be 6 percent.

This derivation of real interest rates is misleading, however, because it implicitly assumes that the investor is certain that inflation will not change during the life of the asset. An alternative approach begins with the nominal rate, but subtracts what through history has been real yield on capital (about 3 percent) to calculate the expected inflation rate. By this method, if a ten-year Treasury bond yields 12 percent, the market is said to be expecting inflation of 9 percent over the next 10 years.

Both approaches assume that Treasury bonds are risk free. Though the chances of default, or credit risk, on such bonds may indeed be negligible, there is a significant risk resulting from the uncertainty involved in estimating future inflation. Both the above theories fail to account for this, and assume that the expectation of inflation is a firm element in an investor's calculations. If the investor could perfectly predict inflation, he would demand an interest rate equal to this expected inflation plus a market real rate (probably close to the historical 3 percent). But if the investor is at all uncertain about the future, as the typical investor is, he will demand additional compensation in exchange for assuming this risk.

There is good reason to believe that investors currently demand heavy risk protection. The past two decades of monetary policy have destroyed the previous harmony of inflation rate expectations. Market surveys generally show that investors, on average, now expect inflation to be 4 or 5 percent over the foreseeable horizon. But these forecasts vary considerably from deflation to hyper-inflation. They reveal unprecedented degrees of uncertainty, which translates into unprecedented risk premiums. Investors have been bitten so hard by fluctuating inflation rates that they seem to distrust most forecasts and rely heavily on their own hunches--which vary widely. Likewise there is increased uncertainty about the future level of interest rates. Blue chip financial forecasts find that predictions about the prime rate in the first quarter of 1986 range from 8.5 percent to 14.6 percent. This range of uncertainty is no doubt larger for longer maturities.[1]

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[1] "Business Bulletin," The Wall Street Journal, April 18, 1985, p. 1.

The growing amount of federal debt, moreover, has some investors fearful that Congress will pressure the Federal Reserve System to inflate. Subtracting the traditional real interest rate of 3 percent, plus the expected inflation rate of 4 percent, from current interest rates of over 11 percent, the current purchasing power risk premium amounts to about 4 percentage points. A recent poll of leading investors by a prominent Wall Street firm provides empirical evidence for a segment of the investing population. In February 1985, when the yield on ten-year government bonds was 11.5 percent, respondents said they expected an inflation rate of 5.5 percent. Assuming that the desired real rate of return is approximately 3 percent, this means that investors were demanding a risk premium of 3 percentage points.[2] If this held for all investors, it would imply that nearly 30 percent of the interest expenditures of the Treasury occurred simply because investors were unsure of the inflation rate.

Economists across the ideological spectrum, including John Maynard Keynes and Nobel laureates James Tobin[3] and Milton Friedman,[4] over the years have recommended that governments convert a portion of the public debt to price-indexed bonds. Moreover, bills directing the Treasury to issue a limited quantity of price-indexed bonds have been introduced in the House of Representatives by Dan Lungren (R-CA), and in the Senate (S.1088) by Dan Quayle (R-IN) and Paul Trible (R-VA). The Joint Economic Committee will hold hearings on the issue on May 14.

THE BRITISH EXPERIENCE

While there has been considerable academic interest in price-indexed bonds, politicians have resisted what they felt to be an untested concept. But now empirical evidence at last exists. Since March 1981, price-indexed bonds have been the principal form of long-term government debt in Great Britain. More than one-third of all new bonds, and virtually all long-term issues, have been indexed. Now more than 11 percent of all outstanding, privately held British Treasury debt is indexed. The British experiment provides a sound basis on which to project American success, since the current yield on conventional British Treasury stock is comparable to similar maturities of U.S. debt and inflation is at approximately the same level.

Indexed debt in Britain is sold by the Treasury with interest rates between 3 and 3.25 percent. From 1981 to fall 1984, Britain

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2 Decisionmakers' Poll (New York: Drexel, Burnham and Lambert, Inc., March 13, 1985).

3 James Tobin, "The Theory of Portfolio Selection," in F. H. Hahn and F. P. R. Brechling, The Theory of Interest Rates (London, England: MacMillan, 1965).

4 Milton Friedman, "Sending Mixed Signals," Newsweek, October 19, 1981.

issued the equivalent of approximately $11 billion in price-indexed bonds. During this period, the rate of interest on conventional Treasury bonds was 12 percent, while the inflation rate was below 5 percent. The annual savings to the government from these bonds, therefore, has been the 9 point difference in the rates on conventional and indexed bonds (12 and 3 percent), less the 5 percent annual inflation compensation that ultimately must be paid. This implies a net saving of approximately 4 percent of the bond price, equivalent to $440 million each year on the $11 billion issued, and about $1 billion in savings on current outlays for interest payments (the difference being inflation compensation payable upon maturity).

POSSIBLE SAVINGS IN THE U.S.

Given the much larger borrowing requirements of the U.S. Treasury, the savings in the U.S. would be correspondingly greater. This year the federal government probably will issue about $200 billion in new debt, while rolling over nearly $450 billion in maturing securities. Assuming the same 3 percent coupon rate on indexed bonds as in Britain and basing calculations on the 4 percent inflation rate and 12 percent typical bond rate during 1984, a total switch to indexed bonds could translate into an annual saving in current outlays for interest of nearly $30 billion, assuming the bonds were issued gradually throughout the year. Ultimately there would be a net saving (taking into account inflation compensation that would eventually have to be paid) of over $15 billion.

Even if the interest rate differential proved narrower than this or the amount of debt financed with indexed bonds were smaller, the savings still would be considerable. Fortune magazine, for instance, calculates that if the bonds shaved only 2 percentage points from net interest payments, savings would amount to $13 billion this year, rising to $30 billion by 1990.[5]

Assume that the U.S. Treasury issued all new debt of one year maturity or longer on a price-indexed basis (approximately $275 billion of issues in FY 1986) and that these bonds paid an interest rate of 3 percent on the underlying value of the bonds. Over the next year, the Treasury would pay holders of these bonds approximately $4 billion in coupon payments (equal to 3 percent on $275 billion of bonds issued evenly throughout the year). If Treasury were to issue conventional bonds instead and interest rates remained in the neighborhood of 12 percent, comparable interest payments would be $16.5 billion. Consequently, Treasury could reduce immediate cash interest payments by as much as $12.5 billion on the first year of issue alone. With all this debt

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[5] "A Painless Way to Save a Bundle on Interest Costs," Fortune, April 1, 1985.

held by the public for a full year, the savings on future years would be much higher.

Although there would be savings in current federal outlays, there would be greater expenditures when the bond matured because the Treasury would have to compensate investors for the loss in purchasing power of the original bond. In other words, when the bond matured, Treasury would have to redeem the original face value, as it does with conventional bonds, plus compensation for all intervening inflation. Hence, part of the Treasury's savings would only have been deferred. Yet the savings still would be significant because of the elimination of the purchasing power risk premium.

Even if only half of all new debt were issued on a price-indexed basis, FY 1986 savings would still exceed $6 billion. As a steadily higher percentage of the national debt became indexed, the savings would compound. To the extent that taxable bondholders substituted price-indexed bonds for conventional bonds, of course, the impact on the deficit would be reduced because the Treasury would receive less tax revenue on lower interest payments.

THE BENEFITS OF PRICE-INDEXED BONDS

Reduced budgetary expenditure seems reason enough to consider seriously trial issues of price-indexed bonds, but there are other sound benefits from such a financial instrument. Among them:

1) Price-indexed bonds would be an important addition to the financial markets.

The financial markets do not provide a truly inflation-proof means of accumulating savings. In fact, all current financial instruments force savers to run the risk of inflation eroding their capital. Yet many would be willing to pay a price to avoid that risk. An investment instrument that eliminated such risk and thus guaranteed a real rate of return would be ideally suited to many savers. For instance, a young couple saving for their child's education might prefer an inflation-proof asset over a speculative investment, even if the former paid a slightly lower yield. The most demanding market probably would be for pension funds, life insurance, and Individual Retirement Accounts. Surely elderly Americans whose retirement savings were ravaged by inflation in the 1970s would gladly have accepted a lower yield in return for an absolute guarantee that their savings would retain its purchasing power.

Price-indexed bonds could also stabilize the level of financial savings in times of expected inflation, thus adding to the financial stability and efficiency of the financial markets. When inflation expectations skyrocketed in the late 1970s, many investors, seeking an inflation hedge, fled the bond and equity

markets to invest in real estate and other tangible assets such as art, silver, and gold. These massive shifts from intangible to tangible assets reduced the liquidity of the financial markets and drove interest rates higher. If these investors had had the option of purchasing price-indexed securities, many would have kept money in their financial assets, thereby helping to keep interest rates low and productive investment high.

2) A Treasury portfolio of inflation-indexed bonds would put less pressure on Washington to inflate the currency.

With conventional debt financing, the federal government has a vested interest in encouraging inflation, because it profits when the value of Treasury bonds debt is debased. On the other hand, if the rate of inflation is reduced, the government loses, because it has to pay comparatively high interest rates both to service old debt issued when rates reflected rampant inflation and to meet the inflation risk premium investors add to the interest rates they demand. Indexing removes this profit from inflation, because debt has to be paid back with the same, not cheaper, dollars. Also, servicing costs fall when inflation is cut.

OBJECTIONS TO PRICE-INDEXED BONDS

There have been legitimate objections raised to price-indexed bonds. Yet an analysis of these criticisms indicates that they are not serious and can easily be overcome.

The Burden of Compensating for Inflation

A complaint about price-indexed bonds is that they would saddle the government with an incalculable and possibly enormous future debt burden in the form of compensation for inflation. These critics maintain that the government could lose heavily if inflation increased and it were forced to pay substantial inflation compensation when bonds matured. They point to the experience of Israel, where the government issued price-indexed bonds only to find its liabilities skyrocketing with 800 percent inflation.

Yet removing the potential gains from inflation weakens the incentive for government to generate or allow inflation. So the issuance of such bonds would likely lead to a reduction in inflation, and hence, in the cost of compensating investors. Moreover, inflation would have to increase substantially for the government, on balance, to lose significantly by issuing price-indexed bonds, since the government would realize large savings in interest payments as inflation was rising. In fact, inflation would have to double, from 4 to 8 percent, before net interest costs for price-indexed debt would equal that for conventional debt. Finally, in real terms, the burden of debt under today's conventional financing is incalculable. For instance, the President's February 1982 budget predicted that interest on the national debt

would equal $140.7 billion in FY 1984--only 20 months later. In fact, that interest reached $153.8 billion. The projection for FY 1985 ($146.6 billion) will probably be even further off the mark.[5] Treasury really has little idea what percentage of GNP or taxes the national debt will consume ten years from now. Indexed debt would provide a much more accurate benchmark of future national debt liabilities.

Which Index Should Be Used?

The Treasury Department rightly points out that the choice of an inflation index would be somewhat arbitrary. There are several major price indexes in use, such as the consumer price index, the wage index, and the producer price index. Not only is it unclear which index should be used, Treasury argues, but because the indexes are determined by the government, investors might be wary of government manipulation of the indexes to reduce interest expenditures and demand higher rates of interest--thus defeating the purpose of indexing.

To be sure, no index is perfect. Yet certainty is what counts, and if any of the generally accepted indexes were to be used, the goal of risk reduction would be achieved. It is unlikely, moreover, that investors would be any more concerned about government manipulation of the indexes than they are generally about the government defaulting on its debt. The indexes would not be computed by the Treasury Department, would be subject to public scrutiny, and could not be manipulated without jeopardizing political confidence in the Treasury and government. If this happened, the benefits of indexing bonds would evaporate rapidly at great cost to the government.

Taxation

Perhaps the most significant objection concerns the uncertainty regarding the tax treatment of price-indexed bonds. There are two components in a bond that are taxed; interest payments and capital gains. Most analysts agree that the annual interest payments should be taxed as ordinary income upon receipt. The problem rests with the tax treatment of the inflation-adjusted principal.

There are several alternatives for the treatment of such gains. Treasury could tax price-indexed bonds in the same manner that it currently taxes "zero coupon" bonds--that is, the annual imputed gain from inflation would be taxed as ordinary income. Alternatively, Treasury could tax the principal adjustment as capital gain upon realization, as it does currently for most assets. Either approach obviously would reduce the appeal of

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[5] Budget of the United States Government (Washington, D.C.: Government Printing Office, February 1982 and February 1986).

indexed bonds, since taxes would rise if inflation spurted, although if capital gains were to be indexed for tax purposes--as the Treasury recently recommended--there would be no tax on the inflation-induced "gain."

CONCLUSION

Debt service costs, which represent 15 percent of the budget and two-thirds of the likely FY 1986 deficit, need not and must not be thought of as uncontrollable. By experimenting with price-indexed bonds, the Treasury can reduce government spending immediately by over $12 billion. But even beyond providing a key instrument to help solve the deficit crisis, price-indexed bonds could become a valuable addition to the financial markets.

Prepared for The Heritage Foundation
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Report No. 85-97 E

SHOULD THE TREASURY ISSUE INDEXED BONDS?

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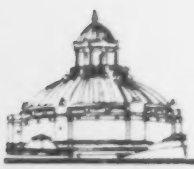

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ABSTRACT

Securities indexed for inflation have been proposed as one of several possible innovations in the Government's debt management. These indexed bonds would guarantee a real interest rate to their buyers and eliminate the losses or gains accruing to bond holders due to unanticipated inflation. This report describes how such securities might work, why they have been advocated, and what problems might arise from their use. Issues relating to their effect on debt service costs, anti-inflation efforts, and macroeconomic policy are also discussed.

SHOULD THE TREASURY ISSUE INDEXED BONDS?

INTRODUCTION

With a debt of approximately $1.5 trillion, to which nearly $200 billion is being added annually, the U.S. Government is the world's largest single debtor. With such a huge debt, there arises the potential for substantial savings (or substantial excess costs) on debt service as a result of the way in which the debt is managed.

The Treasury employs a variety of debt instruments in its financing of the Government's revenue shortfalls. The mix of short versus long-term debt; of bills, bonds, and notes; and of marketable and non-marketable securities, all provide flexibility for minimizing the costs of servicing the debt. There have been efforts both inside and outside the Treasury to come up with other kinds of financial instruments for the purpose of borrowing from the public. One such method is selling securities that are indexed for inflation. This report discusses the advantages and disadvantages of employing such a device.

I. WHY INDEXED BONDS?

The issuance of debt as a means of financing an expenditure constitutes a contract between a borrower and a lender. In order to obtain funds, the borrower (seller of the security) promises to pay back to the lender (buyer of the security) the amount borrowed at a later date, plus a fixed sum that is determined by the size of the loan and the time it takes to pay the loan back. This extra fee is interest, typically stated as a percentage of the amount borrowed.

However, whenever there occur computations involving money at two different points in time, problems arise as a result of changes in the value of money. Money's value, which is determined by what the money can buy in terms of real goods and services, changes as the prices of those goods and services change. When prices on average fall over time (deflation), the value of money rises. When, as has been more common in the post-war decades, prices rise (inflation), money becomes less valuable.

If inflation occurs during the lifetime of the debt contract, the money that is paid back to the lender is worth less than when it was first borrowed. Such a reduction in the real value of the loan's principal causes a loss to the lender which cuts into the interest he earns on the transaction. The real return that the lender was supposed to receive is, therefore, reduced (possibly so much as to become negative) by the inflation; in contrast, the borrower gets the use of the funds for less (in real terms) than what was agreed.

As occurs in many markets, buyers and sellers of securities have managed to circumvent at least part of the problem posed by changes in the value of money. By making the stated interest rate on any loan higher or lower than the real interest rate they wish to use, the parties to the loan agreement can arrange for the interest payments to compensate the lender for the loss of principal that would result from any inflation that they expect to occur (and protect the borrower from paying any extra that could result from anticipated deflation). Consequently, the dollar value of the payments made in return for the privilege of borrowing, when expressed as a percentage of the initial principal, constitutes only a "nominal" interest rate. The return to the lender in terms of goods and services that can be purchased is the "real" interest rate. This "real" interest rate, thus, becomes only implicit in the loan contract. The difference between it and the stated "nominal" interest rate is determined by the expectation of inflation on the part of borrowers and lenders.

One problem with incorporating expected price changes into nominal interest rates is that the rate of inflation is difficult to predict with much accuracy. Consequently, the actual real return on a security, after the fact, may still deviate substantially from the real interest rate that the borrowing and lending parties intended in their loan agreement. If the inflation was overestimated, the borrower pays more in real terms than what he thought he had agreed to. If the inflation was underestimated, the lender earns less in real terms than he thought he was going to earn.

An indexed security is a means by which a loan can be made without this unanticipated loss or gain occuring. It is essentially a loan agreement made in real terms. The actual rate of inflation is expressed as an index which is used to adjust nominal interest and/or principal payments to maintain the

real value of the loan and its return. This corrects for inflation after the inflation occurs, when the actual rate of inflation is known, rather than before it occurs when the inflation can only be projected. In short, the indexed security is a means of guaranteeing that the lender gets the full real value of his principal and interest, and that the borrower does not have to pay more in real terms than what he has agreed upon in advance.

II. HOW INDEXED BONDS WOULD WORK

There are two basic ways of indexing a bond for inflation. In one, the principal is repaid in dollar terms equal to the amount of the initial loan (as non-indexed securities are), but the interest rate is raised and lowered to reflect actual inflation. In the other, a real interest rate is specified and all payments of interest and principal are scaled up or down by the rate of change in prices that has occurred between the time the money is borrowed and the time the payments are made.

The first of these two methods mimics the current method of non-indexed payments in the sense that the interest payments are what compensate the lender for inflation. The difference between this method and non-indexed securities is that instead of trying to predict inflation at the time of the loan and incorporating this expectation into the stated interest rate, actual observations of price change are used to determine interest. As inflation occurs, the interest paid is adjusted up or down, so that the interest payments fluctuate. In short, in this method of indexing, a nominal interest rate determines the size of interest payments, but the nominal rate varies with inflation to hold the real rate constant.

The second of the two indexing methods directly corrects for the problem that causes inflation premia to be incorporated into nominal interest rates in the first place. In this indexing method, interest payments depend not on a nominal interest rate but on an agreed upon real interest rate. The payments

of interest (and principal, too) are then made in real terms. That is, the loan amount and the scheduled payments of interest are scaled up by the change in prices to keep the buying power of all payments at the level initially agreed upon.

This latter method, unlike the former, has the advantage that it can also be used for zero-coupon securities, such as Treasury bills. A bill is a promise to pay a certain amount at a specified later date. It bears no explicit interest. The lender earns interest implicitly by buying the bill at a discount — less than its face value. Since a bill has no explicit interest rate, there is no way to adjust the rate for inflation in the fashion of the indexing method first described. However, a bill could be designed so that it is a promise to pay a certain amount in real terms at a later date. All that would be required would be to inflate the promised nominal sum by the change in the price level.

Bonds bearing explicit coupon interest payments could be dealt with in virtually the same manner under the second indexing method. The principal would be promised in real terms. Interest payments would be promised in real terms. Interest payments would be promised as a fixed percentage (the real interest rate) of the real principal. Not only would the principal be scaled up by the price level at the time of redemption so that no loss accrues to the lender, but the interest payments would also be scaled up each time they were due so that interest would be earned on the real rather than nominal loan amount.

The actual process of indexing has two problems: the choice of an appropriate index and the lag that exists between the time that prices rise and the time that the price index becomes available. It is not immediately clear which

index should be used. The lag in measuring price change means that no security can be fully indexed.

Essentially, the real value of a quantity of money is constant if the individual whose money it is can buy the same goods with it at one time as in another. However, not everyone buys the same collection of goods -- neither the same as each other nor the same goods over time. Since prices change relative to each other as well as on average, some individuals find their real purchasing power changed more than others during the course of an inflation or deflation. Consequently, no index can be constructed that could reflect the change in everyone's purchasing power, or if used to scale up nominal payments, keep everyone's purchasing power constant.

This is why different price indices provide different measures of inflation. Their coverage is different. Depending on which kind and how many goods are covered in the index, different rates of price change can be reported. In this sense, no price index is particularly more appropriate than another for the purpose of indexing. One could make an argument for the price of a single commodity as well as a comprehensive collection of them. The best index to use would simply be the one that makes the bonds most attractive to lenders. In all likelihood this would be one of the more comprehensive indices such as the Consumer Price Index (CPI) or the implicit price deflator for Gross National Product; these come the closest to approximating the buying power of large numbers of individuals on average.

The lag between actual price change and availability of the index measuring that change introduces a more significant problem. Theoretically, the indexed interest or principal payments should reflect the price level at the time the payments are made. However, the level of prices is usually not known at that

time. At best, only the most recent measure of the price level can be used. This measure can be as much as two months old in the case of the CPI (which is computed monthly) and much longer in the case of the GNP deflator (which is computed quarterly). The real value of the principal (or interest) would still vary from the promised amount by the difference between the most recent rate of inflation and the rate current at the time loan payments are made.

This would mean that, given a comprehensive price index, full indexing of bonds is impossible. For bonds of long maturity, this is a small problem. The impossibility of properly measuring the rate of inflation during the last month of a five or ten year bond would likely have little affect on the indexing protection offered to lenders and borrowers. 1/ However, short-term instruments would suffer significantly from this defect. Such a discrepency between current and lagged inflation rates would make a big difference in the indexing of a three month Treasury bill, for example, making it an unlikely candidate for indexing.

One possible solution is to use a less comprehensive index of prices. An index of key commodity prices that can be observed daily is an example of such a measure. However, it is not very likely that such a limited index would track very well with the actual price level. This approach would make the bonds less attractive by making them a poorer guarantee of real purchasing power.

1/ Technically, even on a bond of long maturity, a one-month lag in obtaining a price index could have a big effect on the value of the bond if inflation were accelerating rapidly as in a hyperinflation. For such a situation, a more immediate measure of prices would be required for indexing.

III. BENEFITS AND COSTS OF INDEXING BONDS

If inflation could be predicted with certainty, it would be difficult to imagine what benefit could come of indexing securities. Under such circumstances an indexed and non-indexed bond would yield the same return (assuming they were issued at the same time and had identical maturities). The real return which is required by the lender, and which the borrower is willing to pay for the use of the money, would not be affected by whether the bond is indexed or not. Since the inflation rate would be predicted with certainty, the same rate of inflation would be incorporated into the non-indexed bond as is used to adjust the payments on the indexed security. They would be, in all essentials, the same.

Inflation, however, cannot be predicted with certainty. Hence, there exist two discrepancies between the real yields on an indexed and a non-indexed security. First, there is the difference between actual and anticipated inflation. If inflation turns out to be higher than was expected when the non-indexed security was sold, then the real yield comes out to be less than was implicitly agreed upon; the non-indexed bond will have incorporated a nominal interest rate insufficient to compensate the lender for actual inflation. If inflation is lower than expected, the real yield on a non-indexed bond turns out to be greater than agreed upon; the nominal interest rate used will have been more than sufficient to compensate for inflation. The indexed bond, on

the other hand, because it uses actual inflation to adjust payments of interest and principal, guarantees the real yield on the loan.

Second, because the real return is assured in the case of the indexed bond, it is not necessary to compensate the borrower for the risk he undergoes as a consequence of possible capital losses or gains due to unexpected inflation (or deflation). Of course, all loans entail risks. Even though the purchase of a Government security bears negligible risk of default, a lender still faces the possibility that the day after lending money at one interest rate, the going rate might rise, meaning that he would have been better off by waiting a day. 2/ Such risks are inevitable. However, fluctuations in the value of a security due to unexpected inflation are avoidable if indexed bonds are available. An indexed bond is therefore a means of decreasing the risk that a lender is exposed to. 3/ For the privilege of the Government's guarantee of the real return on the loan, the lender is willing to accept a somewhat lower yield. 4/ The indexed bond yield differs from the nonindexed bond, then, not only as a result of differences between actual and anticipated inflation, but also as a result of the lower

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2/ Because the loan he did make now pays less than the going interest rate, it is now a poorer investment and worth less. Its value in the market is lower so that the lender will experience a capital loss if he sells the security.

3/ A non-indexed bond is more risky than an indexed bond only if the lender's expenses fluctuate with the price level. If an individual faced outlays which were fixed in nominal terms, then he would be better off with a security that yielded a fixed nominal return -- i.e. a non-indexed bond. The indexed security for such an individual would be more, not less, risky. It is not likely that many such individuals exist.

4/ This does not necessarily increase the risk absorbed by the Government, however. While the Government's nominal outlays would become more unpredictable with indexed debt, its real outlays would become less so. Since the Government's revenues reflect fluctuations in the price level, indexing the debt would match the response of outlays to inflation more closely with that of receipts -- which may be construed as a reduction in budgetary uncertainty.

rate that lenders are willing to accept on indexed securities as a result of this guarantee.

A. Interest Cost Savings

These two differences in the yields of indexed and non-indexed securities reveal the potential difference to the Treasury in the cost of servicing the debt. The eradication of inflation risk to the bondholder will tend to lower the interest rate the Government has to pay on its debt. It is true that the inflation risk premium that is attached to non-indexed bonds may be quite small. However, given the size of the Government's debt, even a small reduction in the interest rate could translate into a substantial saving in interest costs.

Nonetheless, it is not clear that indexed bonds will save the Government money. The other difference between indexed and non-indexed bonds -- the difference between actual and anticipated inflation -- is potentially much larger than the inflation risk premium. In terms of saving, the anticipated-actual inflation difference can go either way. If inflation is over-predicted, indexed bonds will cost the Treasury less than non-indexed bonds because a higher than necessary rate of inflation will have been incorporated into the nominal interest rate on non-indexed bonds, whereas indexed bonds are linked to the actual rate. But if inflation is under-predicted, then the interest costs of indexed bonds will exceed those of non-indexed bonds and the Government will lose money -- probably more than it can save on the risk premium.

Historically, underprediction has probably been the case. Evidence suggests that from World War II well into the 1970s, inflation has turned out higher than people on average expected. As a result, nominal interest rates

were rarely high enough to compensate lenders for the loss of the real value of their principal. The Government made significant gains as a result, reducing considerably the real value of its debt, even in the face of additional borrowing. Had indexed securities been used during this period, they would have substantially added to the Government's debt service costs.

Now, however, the opposite may be true. Unlike most of the post-war period when inflation was accelerating, we now may be in a period of decelerating inflation. Since there is reason to believe that inflationary expectations are inertial -- based heavily on recent experience -- then it is quite possible that the public will have a tendency to over-predict inflation for a while. If the Government intends to pursue a policy of disinflation, anticipations of inflation will probably be over-estimates. Under such circumstances, indexed bonds will pay out a lower yield than non-indexed bonds and the Government can save money by indexing part of its debt.

B. The Incentive to Inflate

It has been frequently asserted that an adverse consequence of indexing is that it makes inflation "easier to live with". This is said to be true of any kind of indexing for inflation -- of the debt, of the tax code, or of private contracts. According to this argument, the ability to control inflation depends on the public's insistence on maintaining price stability and its willingness to bear the costs of the anti-inflationary policy required to achieve it. If part of the pain of inflation is removed, this reasoning goes, the public's resolve to control inflation will weaken, and inflation will ultimately get worse. Indexing, by protecting bondholders from inflation, is, therefore, believed to make additional inflation more likely.

It may well be, however, that the effect of indexing will be just the opposite, reducing the probability of worsening inflation by eliminating one of the Government's incentives to cause inflation. With unindexed debt, unanticipated inflation causes borrowers to gain as a result of unexpected erosion of the real value of loan principal. Every time inflation accelerates, the likelihood that this additional inflation will not be expected means that the Government, as the World's largest debtor, will gain. Since Government policy -- particularly monetary policy -- is often crucial in generating inflation, it is actually possible that the non-indexed nature of the Government's debt encourages it to engage in inflationary policy.

Indexing the debt removes this particular incentive to inflate. In this regard, indexing the debt is analogous to indexing the tax code. The unindexed individual tax code has also yielded real gains to the Government from inflation. Indexing the tax structure and the debt both make inflation a less attractive policy for the Government to pursue because it no longer yields fiscal dividends. Thus, while possibly making inflation "easier to live with" for some individuals, indexing makes inflation harder to live with for the Government.

One can not say with certainty which of these two effects is strongest. However, the inflation protection offered to bondholders would affect a relatively small segment of the population and is, therefore, likely to weaken public anti-inflationary resolve to a limited extent only. Taking away inflation gains from the Government, on the other hand, weakens the incentive of what may be inflation's most important constituent. In addition, the credibility of the Government's anti-inflation policy -- one of the most important considerations in moderating private sector wage and price increases

-- is enhanced significantly when it becomes clear that the Government will cease to be a fiscal winner in the inflation process. Knowing that the Government will no longer profit directly from inflation makes it much easier to have confidence in the Government's intention to pursue an anti-inflationary program and makes it more likely that wage and price setters in the economy will adjust their behavior in the face of lagging demand.

C. Market Acceptance

The most frequently voiced criticism of indexed bonds is the insistence that there is an almost total lack of interest in such instruments by investors. Bond traders have maintained that no one is especially anxious to buy them. 5/ If this is true, it is unlikely that the Government could save much money on debt service from such bonds. Unpopularity with investors would tend to reduce the price that could be obtained for the securities. Hence, the Government would raise less revenue from them than expected, paying a higher yield than on non-indexed bonds.

It is, of course, difficult to predict the demand for a product in the absence of its existence. When no indexed bonds are sold, it is unlikely that many buyers will have the opportunity to voice their preference for them, however appealing such a debt instrument may be. Moreover, any new product will take time before it gains acceptance. Markets can be expected to be thin for a while even for an instrument destined to be popular later. Had they been asked in the early 1970s, few market experts would have predicted

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5/ Rising Interest Rates Spur Treasury to Study Debt-Financing Options, Wall Street Journal, July 6, 1984.

the success of financial innovations such as adjustable rate mortgages or floating rate securities. The same might be true of indexed bonds.

Indeed, there is indirect evidence that indexed securities would find a market. Prior to 1933 when they were outlawed, many securities (including some issued by the Government) had what was known as "gold clauses". These clauses guaranteed the lender repayment in gold or the equivalent price in legal lender. Thus, they were essentially indexed bonds with the price of gold used as the index. These bonds were popular and a substantial market existed for them. There is no particular reason why this potential market should have disappeared. In addition, indexed bonds have been successfully floated abroad. 6/ In the U.S., a variety of security issues with floating interest rates -- an approach that has the result of partially indexing for inflation -- are also very popular.

Almost certainly an innovation like indexed bonds would require some initial set-up costs associated with getting investors accustomed to it. Yet, while this cost should be considered in determining the desirability of indexing, it is probably safe to assume that it would be only temporary.

D. Tax Treatment

Uncertainty about the way in which these bonds would be treated for tax purposes may also hurt their desirability. Currently, the tax code makes no allowance for inflationary loss or gain, taxing the returns on capital in nominal terms. Moreover, it makes a distinction between interest earnings and capital gains (i.e., the earnings made from selling an asset at a higher

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6/ Great Britain and Israel have both issued indexed securities.

price than buying it). It is not entirely clear how the returns from indexed bonds would be treated.

There are basically three options. The real interest rate can be taxed as interest with the inflation compensation not counted as income. This would constitute a form of indexing for inflation that exists nowhere else in the tax code. Second, the real interest can be taxed as interest and the inflation compensation taxed as a capital gain. This would still make the tax treatment different from non-indexed bonds (where the inflation compensation is incorporated into the nominal interest rate and taxed as such) but similar to the taxation of returns from real investments. Finally, the real interest and inflation compensation can all be taxed as interest. This is consistent with the taxation of other non-indexed securities except that the pattern of earnings would be different over time (raising the possibility that the timing of taxes on the securities would also be different).

If current law were not changed, the third method of taxation would probably be the one applied. If the method of indexing used were the one that adjusts the interest rate to reflect changes in inflation, then both nominal and real gains from the indexed bond would appear as periodic interest payments and be taxed as interest. If the principal and interest payments were scaled up by an inflation index, then the nominal increase in the principal would probably be treated for tax purposes in a way analogous to the treatment of zero coupon bonds. The nominal adjustment to the principal would be taxed as if it were interest earned in increments over the life of the security. Nominal adjustments on interest payments would be treated the same as real interest.

The method of taxing the nominal gain received at maturity as if it were received in increments each year would put an indexed bond of this sort at a disadvantage compared to its non-indexed counterpart. That is because an owner of an indexed bond would not only pay a tax on an illusory gain (which is true of non-indexed securities), but would have to pay the tax before he received the inflation compensation. This could be redressed by deferring the tax on the principal adjustment. Otherwise, the instruments would be primarily attractive for tax-exempt investments, such as IRA's, which do not have this problem.

For proper inflation indexing of bonds however, the first method would be required. That is, the nominal adjustment for inflation would need to be exempt from taxation. If this indexing for taxes were not allowed, then the taxes on the bond yield would rise with inflation, and the bondholder would find that, in terms of his after-tax yield, his real return is still eroded by price increases. Hence, the bond yield would not be fully protected from inflation. In any event, however, the tax treatment of the bonds would have to be settled before the bonds could be marketed. Indeed, the uncertainty of this tax treatment might be another reason for the alleged lack of interest in indexed bonds.

E. Flexibility of Debt Refinancing

Given the periodic character of inflation measures, indexed bonds could hamper some of the flexibility the Treasury now has in rolling over its debt. Since price indices are issued only at regular intervals, it would be advantageous to have indexed bonds mature at times correlated closely with the issuance of new price index figures. The timing of interest payments, too, would also

need to be so coordinated. This would help minimize the discrepancy in inflation compensation that results from finding out what prices did some time after the prices actually change. Consequently, there would only be certain times of the month or year in which the securities could be conveniently sold.

This is a special problem in light of the periodic refinancing difficulties faced by the Treasury due to the failure of the Government to raise the debt ceiling in a timely fashion. When the debt ceiling is encountered, new security issues often must be delayed. For an indexed bond timed tc be issued and redeemed with the publication of price indices, this could be a particularly damaging delay.

F. Information Content for Macroeconomic Policymaking

Interestingly enough, a significant aspect of issuing indexed bonds has nothing to do with debt management techniques, saving on debt service, or providing an inflation hedge. It is the information that would be revealed by a market in indexed securities. Indexed bonds carry an observable real interest yield. Real interest rates, currently unobservable, are a key factor in the determination of the level of economic activity.

There is no way to know what the public on average expects inflation to be. Consequently, there is no straightforward means of decomposing the nominal interest rate into its real and inflationary parts. Yet the real interest rate is a crucial determinant of investment in housing, business plant and equipment, and consumer durables. It influences international capital movements and other important aspects of the economy. Knowing the real interest rate can, therefore, be crucial to formulating sound economic policy. Frequently,

observers use actual inflation rates to calculate what they call the "real" rate of interest. But such computations are flawed due to the divergence of predicted from actual inflation. Policy assumptions resulting from the use of such an ad hoc measure can be misleading.

With an active market in indexed bonds, the level of real interest rates would actually be known. Policymakers would no longer have to speculate on real interest rate levels, but would know them. This would help considerably the conduct of countercyclical monetary and fiscal policy. For example, nominal interest rates that seem high enough to choke off an expansion, may or may not be high in real terms. If they are high due to inflation expectations, such high nominal rates pose little threat to economic activity. If they are a reflection of high real rates, they imply a different policy response. With indexed bonds, it would be possible to know which is the case. That is not possible now with any certainty.

In fact, by issuing bonds of identical maturities, side by side, one indexed and one not, it would be possible to derive a good approximation of the rate of anticipated price change over their maturity. 7/ Such a measure could be used to adjust figures on non-indexed private debt to find the real interest rate that private firms must pay. The measure of the expected inflation rate would also reveal a great deal about the credibility of the Government's anti-inflation program and provide information relevant to the estimation of money demand. In short, indexed bonds would allow us to see an important part of the economy that is now veiled.

7/ If this were to be done, it would be essential to make the tax treatment of otherwise identical indexed and non-indexed securities as similar as possible, and extend indexing of the tax code to its treatment of capital gains.

CONCLUSION

Indexed bonds could provide markets with a better means of adjusting loan agreements for the effects of price changes. Currently, estimates of future inflation are incorporated into interest rates, but these predictions are often wrong, so that creditors and borrowers frequently earn or pay in real terms amounts different from what they intended. The indexed bonds, being an agreement to use observed price changes to adjust loan payments, guarantee the real yield of the loan.

Indexing might be implemented by varying the interest rate on the loan to reflect changes in the actual inflation rate or by agreeing to make all principal and interest payments in real terms with the real interest rate fixed, and with scheduled payments scaled up by the actual inflation rate. A variety of indexes are available. None are inherently more correct although some obviously would have more appeal than others. The most significant operational problem with indexing debt is the lag between the actual change in prices and the availability of a price index measuring that change. This means that the security would still fall marginally short of full indexing.

The Government might gain or lose from such an innovation. Real interest rates would be reduced by the fact that lenders would no longer require a premium to get them to accept the extra risk imposed by unexpected losses due to inflation. This would decrease the Government's interest costs. However, the main determinant of the Government's saving (or extra cost) is whether inflation

turns out higher or lower than people expect. If inflation turns out lower than is currently expected by the public, then indexed bonds will result in lower interest payments than non-indexed bonds which bear a nominal interest rate increased by inflation expectations. Interest costs would be higher with indexed bonds if inflation turns out higher than the market predicts. In a period of disinflation, the odds favor savings for the Government.

In addition, by taking away part of the Government's gain from unexpected inflation, indexing the debt removes some of the incentive on the part of the Government to accelerate inflation. This may not only help reduce Government caused inflationary pressure, but can reduce private sector wage and price pressures by convincing people that the Government is serious about fighting inflation.

Potential problems with indexed bonds include the difficulty of getting investors to accept them. Any innovation requires time for acceptance. The Government may have to take initial losses before the indexed securities begin to yield savings. Historical experience, however, seems to indicate that eventual acceptance is highly likely. Another problem is the tax consequences of these bonds. It is not entirely apparent at this point how the returns on these bonds would be taxed. Before they could be issued, this treatment would have to be settled. Indeed, changes in the tax treatment of inflationary capital gains might be required for satisfactory indexation of the debt.

Curiously, a major change that indexed securities would make would be to provide policymakers a measure of real interest rates and inflationary expectations. This information is not currently available. It would be of direct relevance to predicting the course of economic activity and gauging the need for and effects of countercyclical policy.

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